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INTERIM REMEDIAL ACTION WORK PLAN

Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

BRRTS Nos. 02-68-581237 and 06-68-58959

November 21, 2019
File No. 20.0156045.00

PREPARED FOR:
Leather-Rich, Inc.
Oconomowoc, Wisconsin

GZA GeoEnvironmental, Inc.
20900 Swenson Drive, Suite 150 | Waukesha, WI 53186
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November 21, 2019
File No. 20.0156045.00

Mr. Paul Grittner, Advanced Hydrogeologist
Wisconsin Department of Natural Resources
141 NW Barstow Street
Waukesha, Wisconsin 53188-3789

Re: Interim Remedial Action Work Plan
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin
BRRTS No. 02-68-581237 and 06-68-58959

Dear Mr. Grittner:

As a follow-up to the Site Investigation Status Update Report submitted to the Wisconsin Department of Natural Resources (WDNR) on July 19, 2019, GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc., (Leather-Rich), is pleased to submit this Interim Remedial Action Work Plan ("Work Plan") for the Leather-Rich facility located at 1250 Corporate Center Drive in the City of Oconomowoc, Wisconsin ("Site"). The Work Plan provides the design and implementation protocol for the remedial pilot testing to be conducted at the Site to address tetrachloroethene (PCE) in soil, groundwater, and vapors. The goal of the pilot testing is to identify the remedial system performance requirements necessary to address the PCE on-Site to achieve Site closure in accordance with Chapter NR 726 of the Wisconsin Administrative Code.

As requested in our June 13, 2019, GZA advanced and sampled additional monitoring wells and piezometers on July 11 through 13, 2019 on-Site to further evaluate the vertical and horizontal extent of dissolved PCE in groundwater. The results of the analytical testing performed on the recently collected soil and groundwater samples is also included in this Work Plan.

We are proceeding with the interim remedial actions as proposed in this Work Plan, based on authorization received at our meeting on June 13, 2019. Should you have any questions or comments, please feel free to contact the undersigned at (262) 754-2594.

Very truly yours,

GZA GeoEnvironmental, Inc.

Heidi A. Woelfel
Project Manager

Kevin M. Hedinger
Senior Project Manager

James F. Drought, P.H.
Principal Hydrogeologist

J:\156000to156999\156045 Leather Rich\Report\Interim RAWP\FINAL 20.0156045.00 Interim Remedial Action Work Plan_Leather-Rich 11-21-19.docx

Attachments

FIGURES

APPENDICES

1.0 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc. (Leather-Rich), is submitting this Interim Remedial Action Work Plan ("Work Plan") for the Leather-Rich facility located at 1250 Corporate Center Drive in the City of Oconomowoc, Wisconsin ("Site"). Site investigation work was initiated at the Site in 2018 by Giles Engineering, Inc. (Giles), and continued by GZA in April and July 2019. The results of the Site investigations identified the highest concentrations of tetrachloroethene (PCE) in soil within the 0- to 4-foot interval below ground surface (bgs) within the Site building, near the dry cleaning process area. PCE was also reported in soils at deeper soil intervals to 16 feet bgs across the Site at concentrations exceeding the soil to groundwater residual contaminant level (RCL). The concentrations of PCE in soil generally decreased with depth.

Based on the most recent sampling completed in July 2019, the depth to groundwater at the Site varies from about 15.4 to 17 feet bgs. Dissolved concentrations of PCE exceeding the enforcement standard (ES) exist at the Site with the highest concentrations near the dry cleaner process area. The source of the PCE, in both soil and groundwater, is likely due to fugitive emissions from daily use near the dry cleaning area.

On June 13, 2019, representatives from Leather-Rich, the Wisconsin Department of Natural Resources (WDNR), Axley Brynelson, and GZA met to discuss the Site investigation findings at the WDNR office in Waukesha, Wisconsin. Remedial options to address the PCE-affected soil and groundwater were also discussed. On July 19, 2019, GZA submitted a Site Investigation Status Update Report to the WDNR, which provided a summary of the Site investigation activities and results to-date.

This Work Plan is being submitted to provide the anticipated scope of work for the soil and groundwater remedial activities at the Site, the design elements of the remedial pilot tests, the testing and evaluation criteria to determine the effectiveness of the pilot tests and to ultimately determine the scope of the full scale remedial efforts. The goal of the pilot testing is to identify the remedial system performance requirements necessary to address the PCE on-Site to achieve Site closure in accordance with Chapter NR 726 of the Wisconsin Administrative Code (Wis. Adm. Code). Please note that this report is subject to the Limitations provided in Appendix A.

1.1 SITE INFORMATION

The Site is located at the street address of 1250 Corporate Center Drive within the City of Oconomowoc, within the northeast ¼, of the northwest ¼ of The United States Public Land Survey Section No. 15, Township 7 North, Range 17 East, Waukesha County, Wisconsin. A Site Location Map is provided as Figure 1.

1.2 SITE CONTACT INFORMATION

Responsible Party: Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin 53066
Attn: Ms. Cheryl Chew
(262) 569-3100

Consultant: GZA GeoEnvironmental, Inc
20900 Swenson Drive, Ste 150
Waukesha, Wisconsin 53186
Attn: Ms. Heidi Woelfel
(262) 754-2594

2.0 BACKGROUND

The Site is located on an approximately 4-acre parcel within a commercial business park in the City of Oconomowoc, Wisconsin. The Leather-Rich building is approximately 40,000 square feet and is situated along the southern Site boundary. A parking lot is located west of the building adjacent to Executive Drive, a parking lot and grass area are located on the east side of the building along Corporate Center Drive, and a grass area is located north and south of the building. Surrounding properties are occupied by commercial businesses. Figure 2 is a Site Plan that shows the Site layout and features.

Prior to construction on this property in 1993, the Site was unimproved land used for agricultural purposes. Based on the Phase I Environmental Site Assessment (ESA) conducted in September 2017 by Giles, there were no known spills reported at the Site prior to development that would require investigation activities to confirm the soil and groundwater conditions. This Site was developed as a green-field site with the intended purpose of the building to be operated as a dry cleaning facility. The facility has operated in the original building constructed in 1993, with one addition added in approximately 1997. The configuration of the operations and locations of dry cleaning have remained consistent within the building since it began operation in 1993. Based on the RECs identified in Giles' Phase I ESA Report and interviews with the current owner that constructed the original building, the only area where dry cleaning operations are or were performed is along the north wall of the building, near the northeast corner.

The dry cleaning operations are performed in an area that is approximately 100 feet long by 50 feet wide, along the north wall of the building. This area is referred to as the "containment area" in this Work Plan. The dry cleaning process and storage area was constructed with a 60-mil polyethylene membrane installed as a containment area beneath the dry cleaning area to contain spills or releases. The membrane was reported to be one piece of material with no seams, installed at a depth of 2 to 3 feet below the floor elevation. The north edge of the membrane was secured to the north building foundation wall based on Site construction photos; however, the completion details of the edges along the west, south, and east sides are not known. Photographs from building construction do not show the completed liner installation along the west, south, or east sides of the containment area. The photographs show the liner under construction sloping from approximately 6 inches below grade to the bottom at 2 to 3 feet below grade. It is unknown if the liner is sealed along the west, south, and east sides and, therefore, it is possible that any accumulating liquid on top of the liner could overflow the liner on these sides.

The area above the membrane was backfilled with sand and base course gravel, and the concrete floor was placed above the gravel. The concrete floor in the containment area is recessed approximately 0.25-foot below the surrounding building floor level to the west and south to provide secondary containment in the event of a spill of dry cleaning fluids. No spills of dry cleaning solvents are known to have occurred within the containment area.

The dry cleaning equipment and machines in this area of the facility are installed on 4-inch raised concrete slabs. The dry cleaning machines represent a closed loop system and the PCE used in the dry cleaning operation is recovered and treated for re-use. PCE is delivered to the Site via the overhead doors located west of the process area and is wheeled to a PCE storage tank in the process area, which is located in the containment area along the north wall, behind the machine and process area.

3.0 SUBSURFACE CONDITIONS

The soils encountered at the Site consisted of a fill layer in the upper 3 to 4 feet of the soil column. The fill included silty clay and rock fragments. Beneath the fill was poorly- to well-graded sand that coarsened downward, transitioning to fine

to coarse gravel. The maximum depth explored was 40 feet bgs at PZ-1 where the gravel was underlain by poorly-graded sands. Bedrock was not encountered during the Site activities.

4.0 SITE HYDROGEOLOGY

During GZA's Site investigation activities in April and July 2019, the depth to groundwater was measured in each well to determine the groundwater elevation and horizontal direction of groundwater flow. Groundwater across the Site is at a depth of approximately 16 feet bgs and groundwater flow was measured to be northwest toward Silver Lake. The groundwater gradient at the Site is very shallow. The depth to groundwater measured during the April 2019 activities in MW-4, south of the building near a grass-lined stormwater swale, was at a depth of approximately 13 feet, which is approximately 3 feet higher than other wells on-Site. The depth to water in this well appears to be influenced by infiltration of stormwater that has occurred from time to time following storm events. The soils at the Site are composed of sand and gravel, which is conducive to infiltration of stormwater. Groundwater elevations are presented on Table 1.

The groundwater gradient for the Site is 0.005 feet per feet (ft/ft) to the northwest along the groundwater flow vector. During the 2018 Site investigation work conducted by Giles, the horizontal hydraulic conductivity measured at the location of MW-1 was 5.122×10^{-3} centimeters per second (cm/s).

5.0 SUMMARY OF SOIL AND GROUNDWATER RESULTS

In April 2019, GZA coordinated the installation of six NR 141-compliant monitoring wells, the advancement of 10 soil borings, the collection of soil profile samples, and the collection of groundwater samples from the monitoring well network. On July 15 and 16, 2019, GZA coordinated the installation of two NR 141-compliant monitoring wells and one NR 141-compliant piezometer. The soil borings were installed in accordance with Chapter NR 141 of the Wis. Adm. Code utilizing a direct-push rig operated by On-Site Environmental of Sun Prairie, Wisconsin. The soil borings were advanced to depths of 5 to 16 feet bgs to collect select soil intervals for laboratory analysis.

The monitoring wells were installed using 4.25-inch hollow-stem augers operated by On-Site Environmental. The monitoring wells were constructed with 10 feet of 2-inch poly vinyl chloride (PVC), 0.010-inch screen and riser. The piezometers were constructed with 5 feet of 2-inch PVC, 0.010-inch screen and riser. A sand filter pack was placed around the well screen to approximately 2 feet above the screen and the annular space from the top of the sand filter pack to approximately 1 foot bgs was filled with bentonite chips. The surface of each well was finished by placing a flush-mount well box with concrete apron over and adjacent to the well.

On April 16, 17, and 18, 2019, GZA collected groundwater samples from the monitoring well network utilizing low-flow sampling protocol. Select monitoring wells and piezometers were sampled again on July 19, 2019. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure the geochemical parameters, including temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), conductivity, and pH. Upon stabilization of the geochemical parameters, groundwater samples were collected directly into laboratory-supplied containers for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260.

5.1 SOIL

The results of the soil analytical data indicated that the VOCs detected at the Site were related to chlorinated hydrocarbons associated with dry cleaning operations. Chlorinated hydrocarbons were detected in the soil along the south side of the

containment area and north of the building. Soil samples were not collected from beneath the containment area to not compromise the membrane, and soil samples were not collected west of the containment area because this area had limited access due to overhead equipment. The other borings advanced further west of the containment area indicated that the soil concentrations were delineated in this direction.

The highest concentrations of PCE in soils along the south side of the containment were adjacent to the containment area and began in the upper 4 feet beneath the concrete floor, extending to approximately 16 feet, the depth to groundwater. The concentrations exceeded the soil to groundwater RCLs, but were less than the direct contact RCLs. The concentrations decreased with depth, indicating that the PCE was released to the soils from near the surface, or possibly from leakage from the membrane under the containment area.

The highest PCE concentrations located north of the building existed in the 4- to 8-foot depth interval, and extended to groundwater. This distribution of PCE in soil north of the building was indicative of a release emanating from beneath the building, the building foundation acting as a barrier in the upper 4 feet, and not from a surficial release outside of the building from a spill or dumpster. The highest concentrations were located along the north wall of the building, decreasing with distance north from the building.

One soil boring, SB-18, was advanced in the loading dock area to evaluate the area for surficial releases of chlorinated hydrocarbons. The sample results from this boring did not indicate the presence of chlorinated hydrocarbons, therefore, this area was not considered to be a potential source area.

The concentrations detected in the soils outside of the building along the northern Site boundary were generally in the 16- to 18-foot depth interval. This interval was consistent with the water table, therefore, the concentrations were likely from the fluctuation of groundwater in the soil column.

5.2 GROUNDWATER

The VOC results for the groundwater sampling indicated that the groundwater plume was migrating from the building to the northwest. The highest concentration of PCE detected in groundwater was at the location of MW-6 along the north wall of the building. Two additional wells (MW-12 and MW-13) were installed in April 2019, and in July 2019, MW-17 and PZ-3 were installed northwest of MW-6 to evaluate the dissolved concentrations of PCE northwest of MW-6. Based on the concentrations, it appeared that the plume was migrating toward MW-13 and MW-17, which was consistent with the previous groundwater flow direction.

Monitoring wells MW-2 and MW-12 appear to be along the edge of the downgradient plume. Inside of the building, MW-9, near the southwest corner of the containment area, had the highest PCE concentration, indicating a potential release in this area. As previously noted, monitoring wells were not advanced beneath the containment area so that the membrane was not compromised. Monitoring well MW-9 and MW-12 were located along a similar flow direction as MW-6 and MW-13.

Following the groundwater monitoring well installation activities conducted in July 2019, select monitoring wells from the network were sampled for VOCs. Monitoring wells MW-1, MW-2, MW-6, MW-12, MW-13, MW-16, MW-17, and PZ-3 were sampled using a low-flow sampling network utilizing low-flow sampling protocol. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure the geochemical parameters of temperature, DO, ORP, conductivity, and pH.

Upon stabilization of the geochemical parameters, groundwater samples were collected directly from the tubing prior to the flow-through cell. The groundwater samples were collected in laboratory-supplied containers, placed on ice in an insulated cooler, and submitted to Pace Analytical of Green Bay, Wisconsin under chain-of-custody protocol for analysis of VOCs by USEPA Method 8260. Table 2 presents the aquifer parameters for the monitoring wells.

The results of the July 2019 sampling event confirmed that the horizontal direction of groundwater flow is northwest. PCE was detected in exceedance of the ES in the groundwater sample collected from monitoring well MW-17, installed in July 2019 along the northwestern property boundary, at a concentration of 187 micrograms per liter (µg/l). PCE was also detected in the groundwater sample collected from piezometer PZ-3, installed in July 2019 along the groundwater flow vector, at a concentration at 106 µg/l. Based on the results of the groundwater sampling conducted in July 2019, the lateral extent of dissolved PCE is not yet defined to the northwest and will likely require the advancement and sampling of a monitoring well off-Site. Further, the vertical extent of dissolved PCE is not yet defined along the groundwater flow vector and will likely require the advancement and sampling of a deeper piezometer near PZ-3, and also a piezometer near the northwest property boundary. Table 3 and Figure 3 present the groundwater analytical results. Appendix B presents the soil boring logs, well construction logs, and development forms and Appendix C presents the laboratory report.

An evaluation of the daughter products indicated that limited reductive dichlorination of the PCE has occurred in the area of the highest concentrations of PCE. The soils at the Site predominantly consist of sand and gravel and contain little organic carbon to facilitate the reductive dichlorination as an electron donor. In addition, the geochemical parameters collected during low-flow sampling indicated that the aquifer was likely anaerobic to mildly aerobic, which limited the reductive dichlorination of PCE. There were indications in the measured geochemical parameters that reductive dichlorination could represent a viable remedial alternative if the aquifer was amended to provide the proper conditions.

6.0 SOIL CLEANUP OBJECTIVE

To satisfy the remedial action objective established in Wis. Adm. Code NR 722, soils must be remediated to the standards established in Wis. Adm. Code NR 720. Two types of standards have been established; numerical and performance. Numerical standards, referred to as RCLs, are concentration-based standards. If soil constituents are remediated to concentrations below the RCLs, then adequate soil remediation has been completed. However, given the location of the soils affected with PCE within the vadose beneath the building and the Site-wide PCE-affected soils exceeding the soil to groundwater standards, the remediation of the chlorinated VOCs to numerical RCLs, that are protective of both groundwater quality and human health, is considered impractical. Since it may not be practical to achieve a numerical RCL, a performance-based standard may be more applicable to the Site. As an alternative to numeric RCLs, Chapter 720 allows the use of standards that demonstrate that the soil or groundwater constituents will not affect human health or the environment. A performance-based alternative could consist of an engineered remedial system, a mass reduction goal, or engineered barriers and natural attenuation.

7.0 GROUNDWATER CLEANUP OBJECTIVE

In order to achieve regulatory closure and receive a Certificate of Completion under the VPLE program, as well as achieve the remedial action objective established in Wis. Adm. Code NR 722, the groundwater will need to be remediated to reach the Preventive Action Limits (PALs) for PCE and its daughter products or be capable of achieving the PALs on-Site in a reasonable timeframe. The requirements of NR 722 do allow for residual groundwater concentrations to remain that exceed the PAL if a PAL exemption is granted for the Site by the WDNR. The ES for PCE was recently revised from 5 to 20 µg/l in Wis. Adm. Code Chapter NR 140.

8.0 SOIL VAPOR EXTRACTION PILOT TEST

The interim soil remedial option selected for the Site, based on the physical and chemical properties of PCE and the coarse-grained subsurface conditions, consists of the operation and performance of a soil vapor extraction (SVE) system. SVE is a proven technology, which involves the induction of airflow in the subsurface with an applied vacuum. This process enhances the in-situ volatilization of the PCE and daughter products and can capture the soil vapors where it is removed under vacuum and discharged to the atmosphere or is treated prior to discharge, depending on the vapor concentrations.

A pilot test SVE well was previously installed by GZA adjacent to the north exterior of the building to determine the effectiveness of capturing the PCE vapors from the unsaturated soil zone. Subsurface airflow will be induced with a pressure gradient applied by the vertical SVE well, which will have a negative pressure from a vacuum applied via an external blower. This gradient will promote the propagation of soil vapors to migrate toward the SVE well for capture. The subsurface conditions and the vapor migration pathways, the construction of the SVE well, the soil porosity and the air permeability, were evaluated by GZA to determine the pilot SVE well test flow rate and radius of influence. As indicated in the Site Investigation Status Update Report submitted on July 19, 2019, vapor probes were also installed by GZA within and outside to measure the propagation of vacuum during the SVE pilot test.

The pilot test for the SVE will be initiated in September 2019. The SVE pilot test will be performed on the 4-inch diameter SVE well with 10 feet of 0.010-inch slotted screen with schedule 40 PVC riser to the surface. The screen has been installed to approximately 14 to 4 feet bgs. The location of the SVE well is near the existing soil boring SB-8 and monitoring well MW-6 located outside of the building, to the north of the containment area. The location is covered by concrete and is located near a shed, which could potentially house the blower equipment.

The pilot test will be conducted during a one-day event utilizing a blower capable of achieving up to 22 inches of mercury and 325 cubic feet per minute (CFM). The blower will be equipped with a damper to allow stepped increases on the CFM over time. The test will begin with the lowest blower rate that can be tested in the monitoring points. Each point will be tested to determine the vacuum during the stepped test. At regular timed intervals, the blower rate will be increased and the monitoring points will be measured again. The results of the vacuum readings will be plotted against the blower rate to determine when the increased rate of the blower shows little to no change in the vacuum readings.

8.1 SVE CONFIRMATION TESTING

In order to determine the effectiveness of the pilot test and the radius of influence of the pressure gradient, the existing vacuum monitoring points will be monitored during the pilot test. The locations of the vapor monitoring points are presented in Table 4 and are shown on Figure 2.

Table 4 - Vacuum Monitoring Points

Vapor Monitoring Point	Screened Interval (feet)	Distance From SVE Well (feet)	Direction From SVE Well
MW-6	21-16 feet	16 feet	East
SB-8	20-10 feet	16 feet	East
VP-4	5-3 feet	6 feet	East
VP-5	5-3 feet	40 feet	East
MW-9	20.5-15.5 feet	44 feet	South
VP-1	5-3 feet	52 feet	South
VP-2	5-3 feet	66 feet	Southeast
SB-6	23-13 feet	60 feet	Southeast
MW-11	22-12 feet	71 feet	Southeast

Each of the vapor monitoring points will be sampled during the pilot test at timed intervals to determine the radius of the SVE well under differing applied vacuums and flow rates. A magnehelic vacuum gage will be used at each vacuum monitoring point to determine the radius of influence of the vacuum. The gauges will be connected to sealed ports with valves which will be connected to the top of each monitoring point. The results of the SVE pilot test will be submitted to the WDNR for review following completion.

9.0 GROUNDWATER CARBON AMENDMENT INJECTION PILOT TEST

The dissolved plume of PCE in groundwater will be addressed by enhanced reductive dechlorination (ERD). Due to the nature of the sand and gravel deposits at the Site, there is limited available carbon to be utilized to drive the dechlorination of PCE to completion. A pilot test will be conducted to determine the volume and type of carbon source amendment to be added to the groundwater to promote the reductive dechlorination. GZA previously installed seven injection points north of the containment area outside of the building utilizing direct push with soil sampling and consisted of a 2-inch PVC well to 20 feet bgs with 10 feet of 0.010-inch screen. Each injection point is finished with a protective flush-mount cap and an attachment to allow for the gravity feed or injection under pressure of the amendment into the subsurface.

Prior to the amendment pilot test, GZA will collect groundwater elevations, aquifer parameters, and groundwater samples from the monitoring well network. The samples will be collected using low-flow sampling protocol and will be placed into laboratory-supplied jars. The samples will then be sent under chain-of-custody protocol to a Wisconsin-accredited laboratory for analysis of VOCs by USEPA Method 8260.

The amendment source of emulsified vegetable oil, such as LactOil®, has been identified as a carbon source for the pilot test. LactOil® is a high organic content fermentable oil, which is mixed with water and injected into the subsurface. The LactOil® is a low viscosity product, that when mixed with water will form droplets that are suitable for the sand and gravel deposits encountered at the Site. The pilot test will be conducted by injecting one part of LactOil® to nine parts injection fluid (water), which will produce a 10% oil by volume solution. The water and LactOil® will be mixed in a tank and will be connected to each injection well for gravity feed. The depth to water will be monitored in the adjacent monitoring wells during the pilot test injection activities. Appendix D presents the product information sheet for LactOil®.

9.1 WPDES PERMIT AND EXEMPTION REQUEST

The issuance of an injection permit (Wisconsin Pollution Discharge Elimination System [WPDES]) by the WDNR is required before an injection can proceed. GZA will prepare a Request for Coverage under WPDES Wastewater Discharge Permit (WI-0046566-07) for Contaminated Groundwater from Remedial Operations. GZA will also prepare the exemption request, as identified under Wis. Adm. Code Chapter NR 140.28(5), to detail the prerequisites and criteria for granting a temporary exemption when infiltration or injection is utilized for a remedial action. The WPDES permit and NR 140 exemption request will be submitted to the WDNR in September 2019.

9.2 GROUNDWATER AMENDMENT INJECTION SAMPLING

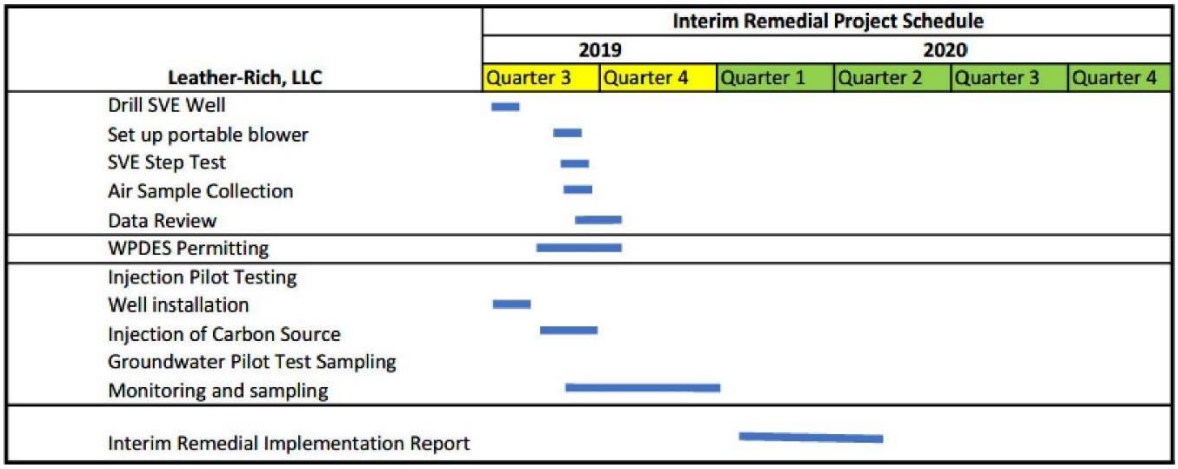
GZA will monitor the effectiveness of the carbon source amendment by conducting groundwater sampling at select monitoring wells at one month, two months, and three months following the initial injection. The wells to be sampled for performance monitoring include MW-9 (source area), MW-8 (adjacent to injection points), MW-13 (downgradient), and MW-17 (downgradient near the property boundary). The samples will be collected using low-flow sampling protocol and will be placed into laboratory-supplied jars. The samples will then be sent under chain-of-custody protocol to a Wisconsin-accredited laboratory for analysis of VOCs by USEPA Method 8260 and for Fractional Organic Carbon under American

Society for Testing and Materials (ASTM) D2974-87, *Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils*.

Based on the results of the groundwater sampling, the effectiveness of the carbon source amendment type and volume will be assessed. The results of the pilot test will be submitted to the WDNR for review following completion.

10.0 PROPOSED SCHEDULE

The proposed pilot testing remedial schedule is presented below:



TABLES

TABLE 1
GROUNDWATER LEVEL ELEVATION SUMMARY
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

GZA/ Giles	Well ID	Well Elevations		Well Construction			Groundwater				Date Groundwater Measured
		TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
Giles	MW-1	103.02	103.23	23.5	10		17.23	85.79	6.27	--	9/24/1993
							17.42	85.60	6.08	-0.19	10/24/2017
							18.07	84.95	5.43	-0.65	3/15/2018
							16.86	86.16	6.64	1.21	6/7/2018
							16.71	86.31	6.79	0.15	7/18/2018
GZA	MW-1	103.05	103.25	22.75	10	17.11	16.91	86.14	5.84	--	4/16/2019
							16.90	86.15	5.85	0.01	7/15/2019
Giles	MW-2	101.96	102.23	21	5		16.99	84.97	4.01	--	3/15/2018
							15.89	86.07	5.11	1.10	6/7/2018
							15.74	86.22	5.26	0.15	7/18/2018
GZA	MW-2	101.96	102.22	20.8	5	16.16	15.90	86.06	4.90	--	4/17/2019
							15.87	86.09	4.93	0.03	7/15/2019
Giles	MW-3	102.81	103.14	21	5		17.74	85.07	3.26	--	3/15/2018
							16.61	86.20	4.39	1.13	6/7/2018
							15.44	87.37	5.56	1.17	7/18/2018
GZA	MW-3	102.81	102.22	20.72	5	16.06	16.65	86.16	4.07	--	4/7/2019
Giles	MW-4	98.82	99.17	18	5		13.76	85.06	4.24	--	3/15/2018
							12.64	86.18	5.36	1.12	6/7/2018
							12.50	86.32	5.50	0.14	7/18/2018
GZA	MW-4	100.29	100.50	17.86	5	12.81	12.60	87.69	5.26	--	4/24/2018
Giles	MW-5	101.98	102.31	20	5		17.10	84.88	2.90	--	3/15/2018
							16.03	85.95	3.97	1.07	6/7/2018
							15.89	86.09	4.11	0.14	7/18/2018
GZA	MW-5	101.93	102.20	20.82	5	16.32	16.05	85.88	4.77	--	4/18/2019
Giles	MW-6	102.89	103.25	21	5		17.90	84.99	3.10	--	3/15/2018
							16.78	86.11	4.22	1.12	6/7/2018
							16.66	86.23	4.34	0.12	7/18/2018

TABLE 1
GROUNDWATER LEVEL ELEVATION SUMMARY
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

GZA/ Giles	Well ID	Well Elevations		Well Construction			Groundwater				Date Groundwater Measured
		TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
GZA	MW-6	102.85	103.15	20.95	5	17.10	16.80	86.05	4.15	--	4/16/2018
							16.79	86.06	4.16	0.01	7/15/2019
Giles	MW-7	102.97	103.27	21	5		17.95	85.02	3.05	--	3/15/2018
							16.83	86.14	4.17	1.12	6/7/2018
							16.73	86.24	4.27	0.10	7/18/2018
GZA	MW-7	102.98	103.20	20.9	5	17.07	16.85	86.13	4.05	--	4/16/2018
Giles	MW-8	103.04	103.24	21	5		18.01	85.03	2.99	--	3/15/2018
							16.90	86.14	4.10	1.11	6/7/2018
							16.79	86.25	4.21	0.11	7/18/2018
GZA	MW-8	102.98	103.12	21	5	16.99	16.85	86.13	4.15	--	4/16/2019
Giles	MW-9	103.15	103.47	21	5		16.57	86.58	4.43	--	7/2/2018
							16.91	86.24	4.09	-0.34	7/18/2018
GZA	MW-9	103.07	103.35	20.05	10	17.28	17.00	86.07	3.05	--	4/17/2019
GZA	MW-10	103.12	103.38	21.92	10	17.38	17.12	86.00	4.80	--	4/17/2019
GZA	MW-11	103.00	103.36	23.04	10	17.36	17.00	86.00	6.04	--	4/17/2019
GZA	MW-12	102.41	102.78	22.04	10	16.98	16.61	85.80	5.43	--	4/17/2019
							16.41	86.00	5.63	0.20	7/15/2019
GZA	MW-13	102.45	102.78	22.10	10	16.83	16.50	85.95	5.60	--	4/17/2019
							16.44	86.01	5.66	0.06	7/15/2019
GZA	MW-14	101.40	101.83	22.20	10	15.81	15.38	86.02	6.82	--	4/17/2019
GZA	MW-15	101.92	102.27	22.10	10	16.25	15.90	86.02	6.20	--	4/17/2019
GZA	MW-16	89.20	95.70	19.60	10	21.97	15.47	73.73	4.13	--	7/15/2019
GZA	MW-17	96.60	102.00	21.22	10	21.62	16.22	80.38	5.00	--	7/15/2019
Giles	PZ-1	102.90	103.23	38	5		16.77	86.13	21.23	--	6/7/2018
							16.59	86.31	21.41	0.18	7/18/2018
GZA	PZ-1	102.85	103.15	36.75	5	17.07	16.77	86.08	19.98	--	4/16/2019

TABLE 1
GROUNDWATER LEVEL ELEVATION SUMMARY
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

GZA/ Giles	Well ID	Well Elevations		Well Construction			Groundwater				Date Groundwater Measured
		TOC	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	
Giles	PZ-2	102.99	103.47	36	5		16.56	86.43	19.44	--	7/2/2018
							16.73	86.26	19.27	-0.17	7/18/2018
GZA	PZ-2	102.90	103.35	35.70	5	17.34	16.89	86.01	18.81	--	4/17/2019
GZA	PZ-3	98.40	103.40	36.31	5	21.37	16.37	82.03	19.94	--	7/15/2019

Notes:

TOC: Top of casing

bgs: Below ground surface

All measurements are recorded in feet.

Survey measurements were referenced to a temporary benchmark, the north rim of the manhole located in the northeast corner of the Leather-Rich parking lot, which was assigned an elevation of 100 feet.

TABLE 2
GROUNDWATER PARAMETERS AND WATER DEPTH
Leather-Rich, Inc.
1250 Corporate Drive
Oconomowoc, Wisconsin

Well ID	MW-1		MW-2		MW-3	MW-4	MW-5	MW-6		MW-7	MW-8	MW-9	MW-10	MW-11	MW-12		MW-13	
Date	4/16/2019	7/152019	4/17/2019	7/15/2019	4/17/2019	4/24/2019	4/18/2019	4/16/2019	7/15/2019	4/16/2019	4/16/2019	4/17/2019	4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	16.91	16.9	15.9	15.87	16.65	12.6	16.05	16.8	16.79	16.85	16.91	17	17.12	17	16.61	16.41	16.5	16.44
DO (mg/L)	4.86	9.86	7.65	9.8	6.49	9.38	6.54	6.44	9.02	5.99	6.52	7.71	7.59	8.17	5.42	8.47	5.9	7.03
ORP (mV)	159	46.9	136	18.9	196	-10.6	155	141	43.9	164	167	156	162	165	170	69	183	61.2
Conductivity (mS/cm)	0.994	1.402	1.15	1.284	1.13	0.646	1.23	0.857	1.128	0.812	0.709	0.92	1.11	1.12	0.95	1.3	1.12	1.318
Temperature (°C)	19.84	13	10.3	14	12.6	9.2	16.02	17.17	16	18.63	17.75	17.27	15.75	17.61	17.24	14	15.5	13
pH (s.u.)	7.49	7.12	7.65	7.83	7.1	7.8	7.25	6.82	7.35	6.15	6.99	7.48	7.57	7.77	8.02	7.12	7.52	6.75

TABLE 2
GROUNDWATER PARAMETERS AND WATER DEPTH
Leather-Rich, Inc.
1250 Corporate Drive
Oconomowoc, Wisconsin

Well ID	MW-14	MW-15	MW-16	MW-17	PZ-1	PZ-2	PZ-3
Date	4/17/2019	4/17/2019	7/15/2019	7/15/2019	4/16/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	15.38	15.9	15.47	16.22	16.77	16.89	16.37
DO (mg/L)	7.11	7.4	8.16	9.53	4.51	6.29	6.48
ORP (mV)	137	189	42.4	56.5	151	142	68.9
Conductivity (mS/cm)	1.11	0.989	1.043	0.997	1.08	1.37	1.231
Temperature (°C)	11.9	9.3	14	11	20.87	15.8	15
pH (s.u.)	7.56	7.8	7.34	7.2	7.51	7.34	7.22

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	MW-1						MW-2			
			9/24/1993	10/24/2017	3/15/2018	7/17/2018	4/19/2019	7/15/2019	3/15/2018	7/17/2018	4/19/2019	7/15/2019
Collected by:			Giles	Giles	Giles	Giles	GZA	GZA	Giles	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	-	-	-	-	< 0.36	< 0.36	-	-	< 0.36	< 0.36
Chloroform	6	0.6	< 0.7	< 2.5	< 0.37	< 0.37	< 1.3	< 1.3	< 0.37	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	< 0.7	36.2	190	16	135	45.3	45	35	40.0	28
Trichloroethene	5	0.5	< 0.7	***2.2***	26	***2.1***	21.7	6.9	< 0.16	0.026 J	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	< 0.7	***8.3***	***54***	5.7	***51.6***	***16.1***	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.7	< 0.26	1.5	< 0.35	1.3	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	***8000***	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	22800	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	< 35.4	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	< 1.1	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	600 J	NA	NA	NA	NA

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	MW-3			MW-4			MW-5			MW-5 DUP
			3/15/2019	7/17/2018	4/17/2019	3/15/2018	7/17/2018	4/24/2019	3/15/2018	7/17/2018	4/18/2019	4/18/2019
Collected by:			Giles	Giles	GZA	Giles	Giles	GZA	Giles	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	-	-	< 0.36	-	-	< 0.36	-	-	< 0.36	< 0.36
Chloroform	6	0.6	< 0.37	< 0.37	< 1.3	< 0.37	< 0.37	< 1.3	< 0.37	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	< 0.37	< 0.37	***0.81***	***0.61 J***	< 0.37	< 0.33	***1.6***	***1.6***	***0.99***	***1.0***
Trichloroethene	5	0.5	< 0.16	< 0.16	< 0.26	< 0.16	< 0.16	< 0.26	< 0.16	< 0.16	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.41	< 0.27	< 0.41	< 0.41	< 0.27	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.35	< 0.35	< 1.1	< 0.35	< 0.35	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	MW-6				MW-7			MW-8		
			3/15/2018	7/17/2018	4/16/2019	7/15/2019	3/15/2018	7/17/2018	4/16/2019	3/15/2018	7/17/2018	4/16/2019
Collected by:			Giles	Giles	GZA	GZA	Giles	Giles	GZA	Giles	Giles	GZA
Bromodichloromethane	0.6	0.06	-	-	< 0.36	< 1.8	-	-	< 0.36	-	-	***0.44***
Chloroform	6	0.6	< 0.74	< 0.37	< 1.3	< 6.4	0.54 J	< 0.37	< 1.3	< 0.37	< 0.37	**8.8**
Tetrachloroethene	5	0.5	**760**	**620**	**939**	**636**	**180**	**170**	**204**	**120**	**63**	**61.9**
Trichloroethene	5	0.5	**170**	**190**	**194**	**76.8**	**18**	**34**	**29.8**	***4.9***	***1.8***	***1.1***
cis-1,2-Dichloroethene	70	7	**320**	**360**	**366**	**242**	***36***	**100**	**84.9**	5.6	2.7	2.1
trans-1,2-Dichloroethene	100	20	8.7	< 0.35	14.9	5.7 J	1.2	2.3	2.1	< 0.35	< 0.35	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	***6300***	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	20400	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	206	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	20.6	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	770 J	NA	NA	NA	NA	NA	NA

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	MW-9		MW-10	MW-11	MW-12		MW-13		MW-14	MW-15
			7/17/2018	4/17/2019	4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019	4/17/2019	4/17/2019
Collected by:			Giles	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA	GZA
Bromodichloromethane	0.6	0.06	-	< 0.36	< 0.73	< 0.36	< 0.73	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Chloroform	6	0.6	< 0.37	< 1.3	< 2.5	< 1.3	< 2.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Tetrachloroethene	5	0.5	400	363	177	266	97.3	49.5	167	98.8	10.7	***0.71***
Trichloroethene	5	0.5	110	78.3	24.5	34.1	13.1	5.1	22.5	8.4	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	190	163	***41.5***	***44.9***	***25.2***	***7.3***	***45.4***	***17.9***	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	10	7.9	3.5	2.0	< 2.2	< 1.1	1.3	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	***8900***	NA	***8200***	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	23600	NA	24000	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	59.4 J	NA	35.4	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	7.1	NA	2 J	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	560 J	NA	780 J	NA	NA

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

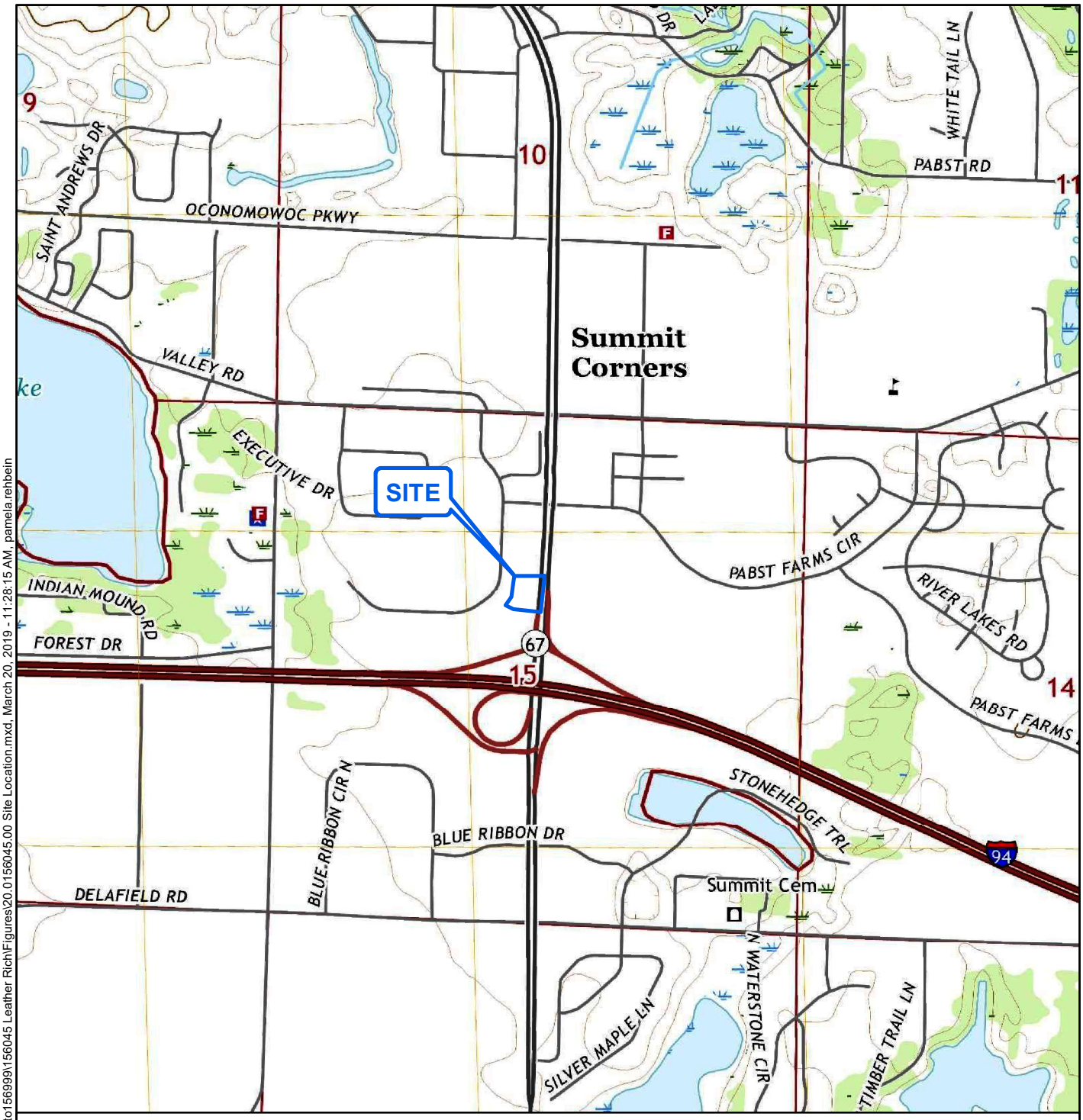
Parameter	ES (ug/L)	PAL (ug/L)	MW-16	MW-17	PZ-1		PZ-1 DUP
			7/15/2019	7/15/2019	7/17/2018	4/16/2019	4/16/2019
Collected by:			GZA	GZA	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	< 0.36	< 0.36	-	< 0.36	< 0.36
Chloroform	6	0.6	< 1.3	< 1.3	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	6.6	187	< 0.37	***0.84***	***0.90***
Trichloroethene	5	0.5	***0.62 J***	17.7	***0.63 J***	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	1.4	***38.2***	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 1.1	< 1.1	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin

Parameter	ES (ug/L)	PAL (ug/L)	PZ-2		PZ-3	Containment Area
			7/17/2018	4/17/2019	7/15/2019	4/17/2019
Collected by:			Giles	GZA	GZA	GZA
Bromodichloromethane	0.6	0.06	-	< 0.36	< 0.36	< 3.6
Chloroform	6	0.6	< 0.37	< 1.3	< 1.3	< 12.7
Tetrachloroethene	5	0.5	< 0.37	***3.0***	**106**	**82.3**
Trichloroethene	5	0.5	< 0.16	0.37	***2.4***	**730**
cis-1,2-Dichloroethene	70	7	< 0.41	< 0.27	4.2	**1640**
trans-1,2-Dichloroethene	100	20	< 0.35	< 1.1	< 1.1	***23.2***
Nitrate as N	10000	2000	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA

Notes:
1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) and analyzed by PACE Analytical Lab, Inc. (PACE) of Green Bay, Wisconsin using WI GRO for GROs and USEPA Method 8260 for Volatile Organic Compounds
2. Results are presented in micrograms per liter (µg/l).
3. Results are compared to Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standards (ESs) and Preventive Action Limits (PALs). **Underlined Bold Red font** indicates the parameter was detected above the ES and ***Bold italicized font*** indicates the parameter was detected above the PAL.
4. "-" = The sample was not analyzed for the specified parameter.
5. Only results for compounds detected during laboratory analyses are presented.
6. J = Estimated value. The analyte was detected at a concentration between the limit of detection (LOD) and limit of quantification (LOQ).
7. "NA" = Not Analyzed
8. "NS" = No Standard available under WAC NR 140.

FIGURES



SOURCE:

BASE MAP FROM THE FOLLOWING USGS QUADRANGLE MAP:

OCONOMOWOC, WI (2018)

0 1,000 2,000 4,000

SCALE IN FEET

N W E S

DIGITAL TOPOGRAPHIC MAPS PROVIDED BY NGMDB.USGS.GOV

CONTOUR ELEVATIONS REFERENCE NAVD 88,
CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS

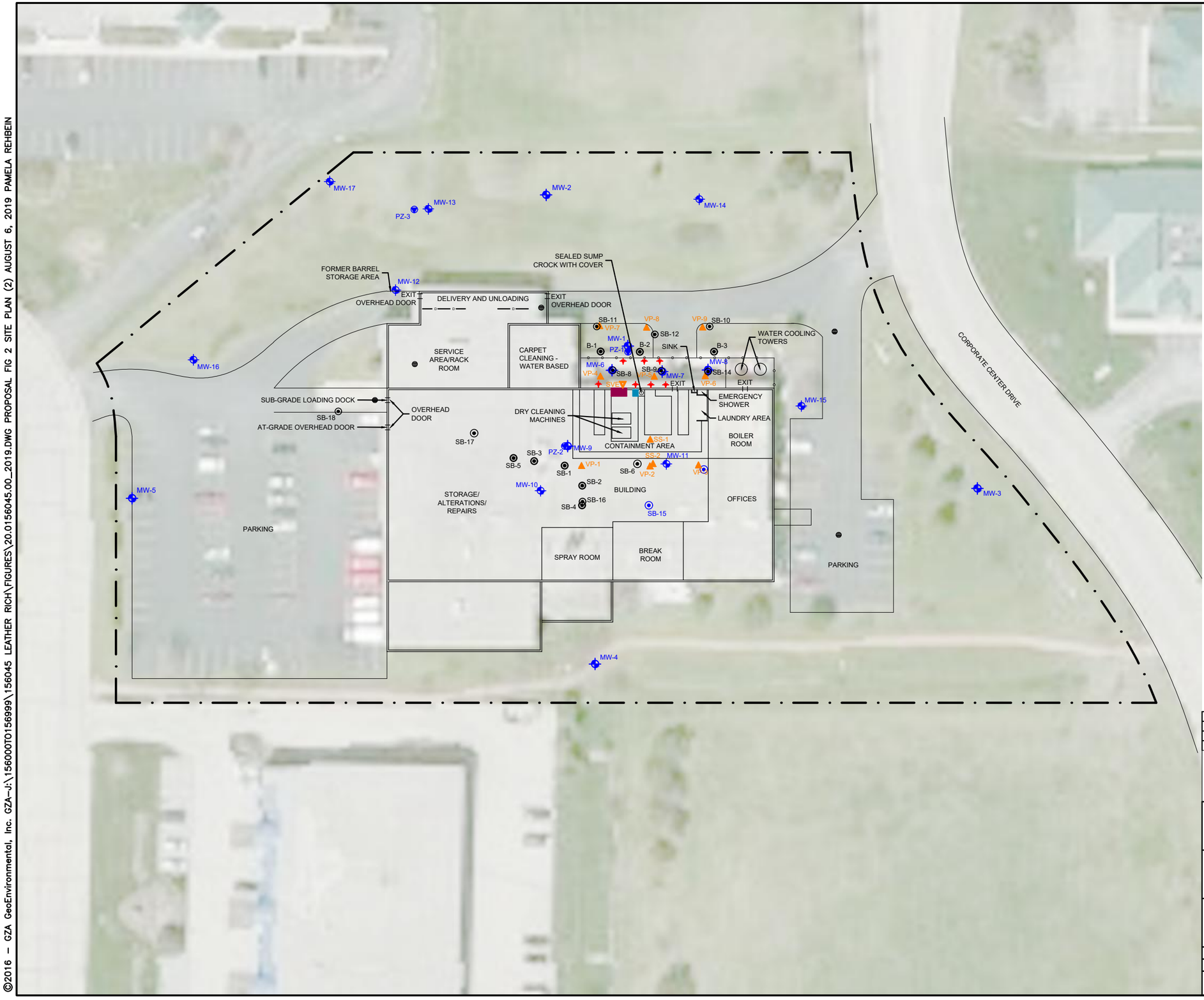
LEATHER-RICH
1205 CORPORATE CENTER DRIVE
OCONOMOWOC, WI

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
LEATHER-RICH, INC.
1205 CORPORATE CENTER DRIVE
OCONOMOWOC, WI

SITE LOCATION MAP

PROJ MGR: KMH	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 1
DESIGNED BY:	DRAWN BY: MJS	SCALE: 1 in = 2,000 ft	
DATE: 03/20/2019	PROJECT NO: 20.0156045.00	REVISION NO:	SHEET NO: OF



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 GROUNDWATER MONITORING WELL
- PZ-1 PIEZOMETER
- B-1 SB-1 SOIL BORINGS
- DRAIN
- VP-1 SOIL VAPOR POINT
- SS-1 SUB-SLAB VAPOR POINT
- TRENCH DRAIN
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- INJECTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL LOCATION

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. THE APPROXIMATE LOCATION OF THE SITE BOUNDARY, BUILDING FOOTPRINT, AND EXPLORATIONS WERE OBTAINED FROM PROFESSIONAL CONSULTANTS, INC. "FIRST FLOOR PLAN", DATED 6-25-93, AND "SITE PLAN PROPOSED", DATED 10-28-96.

N W E S

0 30' 60' 120'

SCALE IN FEET 1" = 60'

NO.	ISSUE/DESCRIPTION	BY	DATE

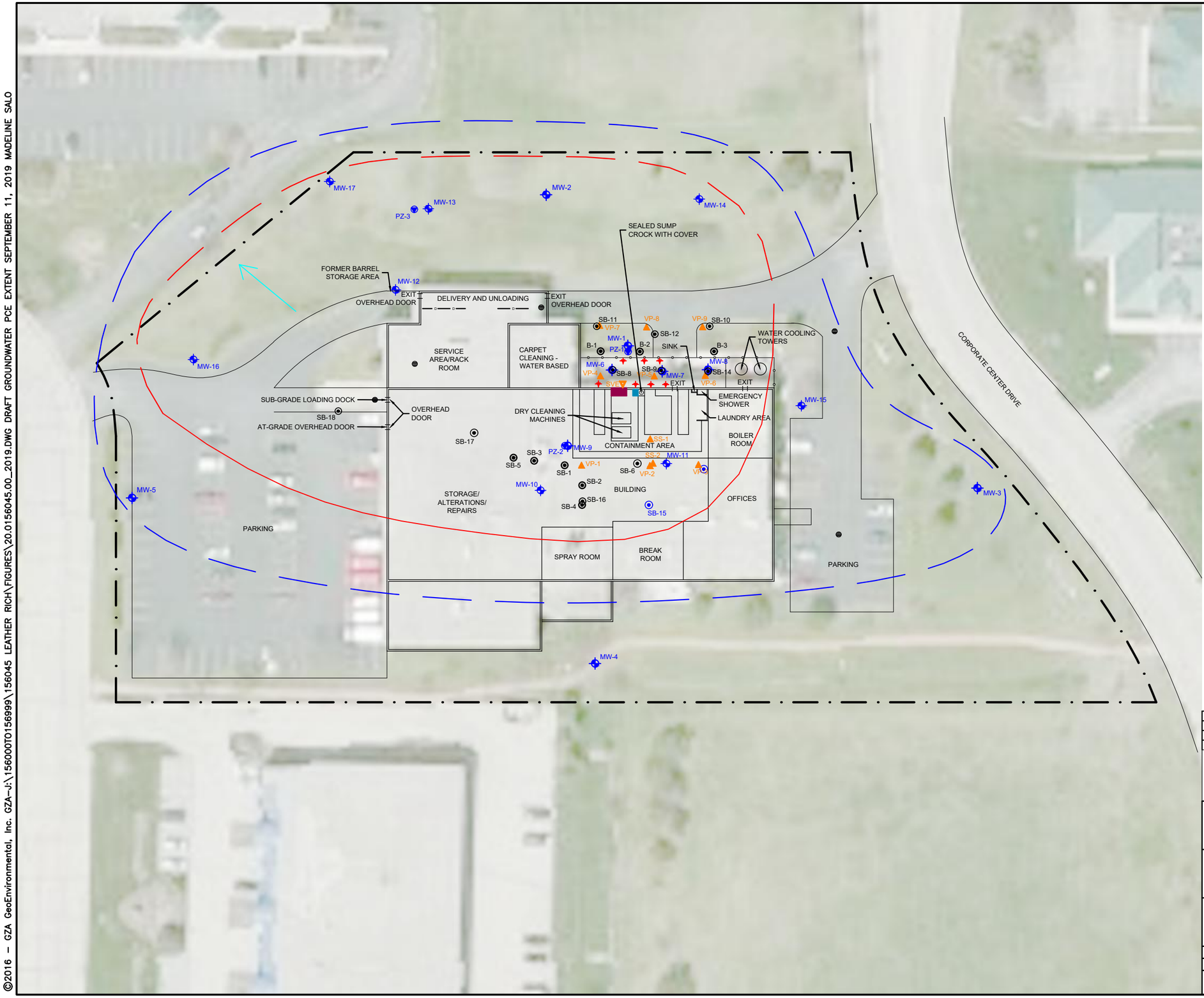
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WI 53066

SITE PLAN

PREPARED BY:
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:
LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WI 53066

PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 2
DESIGNED BY: HAW	DRAWN BY: LES	SCALE: see above	
DATE: 8/6/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW-1 GROUNDWATER MONITORING WELL
- PZ-1 PIEZOMETER
- B-1 SB-1 SOIL BORINGS
- DRAIN
- VP-1 SOIL VAPOR POINT
- SS-1 SUB-SLAB VAPOR POINT
- TRENCH DRAIN
- PCE FILTRATION UNIT
- PCE ABOVE GROUND STORAGE TANK
- INJECTION WELL LOCATION
- SOIL VAPOR EXTRACTION WELL LOCATION
- PCE PAL EXCEEDANCE, 0.5 UG/L
- PCE ES EXCEEDANCE, 5 UG/L
- GROUNDWATER FLOW DIRECTION

NOTES

1. BASE MAP DEVELOPED FROM A GOOGLE PROFESSIONAL ELECTRONIC IMAGE FILE. DIGITAL AERIAL ORTHOPHOTOGRAPHY WAS PUBLISHED BY THE U.S.G.S.
2. THE USE OF AERIAL PHOTOGRAPHY CAN OFTEN MAKE BUILDINGS AND OTHER SITE FEATURES APPEAR TO BE OVERLAPPING AND DISTORTED WHEN OVERLAID WITH ACTUAL SITE FEATURES.
3. THE LOCATION OF THE EXPLORATIONS WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT AND/OR TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
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N
W E
S

0 30' 60' 120'

SCALE IN FEET 1" = 60'

NO.	ISSUE/DESCRIPTION	BY	DATE

LEATHER - RICH, INC.
1250 CORPORATE CENTER DRIVE
OCONOMOWOC, WI 53066

DRAFT GROUNDWATER PCE EXTENT

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: LEATHER - RICH, INC. 1250 CORPORATE CENTER DRIVE OCONOMOWOC, WI 53066	
PROJ MGR: HAW	REVIEWED BY: JFD	CHECKED BY: JJLP	FIG 3
DESIGNED BY: HAW	DRAWN BY: PLR	SCALE: see above	
DATE: 8/7/2019	PROJECT NO. 20.0156045.00	REVISION NO.	SHEET NO. OF

APPENDIX A

LIMITATIONS

LIMITATIONS

Standard of Care

1. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
2. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
3. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

Subsurface Conditions

4. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
5. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

Compliance with Codes and Regulations

6. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

Screening and Analytical Testing

7. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.

8. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.

9. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

Interpretation of Data

10. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

Additional Information

11. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

Additional Services

12. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

APPENDIX B

SOIL BORING LOGS, CONSTRUCTION FORMS, AND DEVELOPMENT FORMS

State of Wisconsin
Department of Natural Resources

Boring Number: MW-16
Soil Boring Log Information
Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Managment ☐
Remediation/Redevelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Leather-Rich		**MW-16**

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name **Tony Kapugi** Last Name Firm **On-site Environmental Services, Inc.**	**7-10-19**	**7-10-19**	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-16	_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☐
State Plane _____ N, _____ E S ☐/C ☐ /N ☐
Lat _____ Long _____
Local Grid Location ☐ N _____ Feet ☐ S ☐ E _____ Feet ☐ W
NW 1/4 of **NE** 1/4 of Section **15**, T **7 N**, R **17 E**

Facility ID	County	County Code	Civil Town/City/or Village
	Waukesha	**68**	**Oconomowoc, Wisconsin**

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-1 (0-5)	60/60		0	S-1: 0-0.25': Topsoil; brown, dry 0.25-1.25': Fat CLAY (CH); trace Gravel, fine to medium-grained; brown, dry 1.5-2': Poorly-graded SAND (SP), fine to coarse-grained; trace Gravel, fine; brown, dry 2-5': Fat CLAY (CH); some Gravel, fine to medium-grained, brown, 2" pulverized red rock at top, 2" pulverized concrete at bottom, dry	TOPSOIL CH SP CH			See note 1						PID readings (ppm): 0-2: 3.3 2-4: 0.3 4-6: 9.8
S-2 (5-10)	60/36		5	S-2: 5-10': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; white/ tan, dry	SW			See note 2						6-8: 10.9 8-10: 16.4
S-3 (10-15)	60/36		10	S-3: 10-11': Poorly-graded SAND (SP), fine to coarse-grained; with Gravel, fine to medium; white/ tan, dry 11-15': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; brown, dry	SP SW			See note 3						10-12: 31.9 12-14: 20.1 14-16: 12.9
S-4 (15-20)	60/24		15	S-4: 15-20': Poorly-graded SAND (SP), medium to coarse-grained; trace Gravel, fine to medium; brown, wet	SP			See note 4						16-18: 31.1 18-20: 28.2
			20	End of Boring at 20 feet bgs. Boring backfilled with native soils and 3/8 bentonite chips.										

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature	Firm
	GZA

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis Stats. Completeion of this form is manatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not indended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent

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State of Wisconsin
Department of Natural Resources

Boring Number: MW-17
Soil Boring Log Information
Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Managment ☐
Remediation/Redevelopment ☒ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Leather-Rich		**MW-17**

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name **Tony Kapugi** Last Name Firm **On-site Environmental Services, Inc.**	**7-10-19**	**7-10-19**	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-17	_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☐
State Plane _____ N, _____ E S ☐/C ☐ /N ☐
Lat _____ Long _____
Local Grid Location _____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W
NW 1/4 of **NE** 1/4 of Section **15**, T **7 N**, R **17 E**

Facility ID	County	County Code	Civil Town/City/or Village
	Waukesha	**68**	**Oconomowoc, Wisconsin**

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-1 (0-5)	~~60/60~~		0	S-1: 0-0.25': Topsoil; brown, dry 0.25-3.75': Fat CLAY (CH); some Sand, fine to medium-grained; little Gravel, fine to medium; brown, dry 3.75-5': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; brown, dry	TOPSOIL CH SW			See note 1						PID readings (ppm): 0-2: 6.7 2-4: 7.7 4-6: 12.8
S-2 (5-10)	60/37		5	S-2: 5-7': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; white/ tan, dry 7-7.5': Poorly-graded SAND (SP), fine to medium-grained; brown, dry 7.5-10': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; brown, dry	SP SW			See note 2						6-8: 27.0 8-10: 13.3
S-3 (10-15)	60/42		10	S-3: 10-11': Poorly-graded SAND (SP), fine to coarse-grained; tan, dry 11-15': Well-graded SAND (SW), fine to coarse-grained; with Gravel, fine to medium; brown, rock fragments, dry	SP SW			See note 3						10-12: 25.0 12-14: 11.2 14-16: 12.9
S-4 (15-20)	60/24		15	S-4: 15-20': Poorly-graded SAND (SP), medium to coarse-grained; with Gravel, fine to medium; brown, wet	SP			See note 4						16-18: 11.3 18-20: 15.8
			20	End of Boring at 20 feet bgs. Boring backfilled with native soils and 3/8 bentonite chips.										

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature	Firm
	GZA

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis Stats. Completeion of this form is manatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not indended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent

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State of Wisconsin
Department of Natural Resources

Boring Number: PZ-3
Soil Boring Log Information
Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Managment ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Leather-Rich		**PZ-3**

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name **Tony Kapugi** Last Name Firm **On-site Environmental Services, Inc.**	**7-11-19**	**7-11-19**	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		PZ-3	_____ Feet	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☒) or Boring Location ☐
State Plane _____ N, _____ E S ☐/C ☐ /N ☐
NW 1/4 of **NE** 1/4 of Section **15**, T **7 N**, R **17 E**
Lat _____ Long _____
Local Grid Location ☐ N _____ Feet ☐ S ☐ E _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/or Village
	Waukesha	**68**	**Oconomowoc, Wisconsin**

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-1 (0-5)	60/42		0	S-1: 0-0.5': Topsoil; brown, dry 0.5-1.5': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to medium; brown, rock fragments, dry 1.5-5': Fat CLAY (CH); little Sand, fine to medium-grained; brown, roots from 1.5' to 1.6', 3" pulverized rock from 1.6' to 1.8', trace Gravel, fine to coarse from 1.8' to 5', dry	TOPSOIL SW CH			See note 1						PID readings (ppm): 0-2: 4.0 2-4: 8.5 4-6: 11.4
S-2 (5-10)	60/48		5	S-2: 5-10': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to coarse; rock and concrete fragments, white/ tan, dry	SW			See note 2						6-8: 17.4 8-10: 50.5
S-3 (10-15)	60/48		10	S-3: 10-15': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to coarse; rock and concrete fragments, white/ tan, dry				See note 3						10-12: 64.3 12-14: 13.4 14-16: 7.7
S-4 (15-20)	60/45		15	S-4: 15-20': Poorly-graded SAND (SP), fine to medium-grained; little Gravel from 15' to 16.5', fine to medium; with Gravel 16.5' to 20', fine to coarse; brown, rock fragments, dry from 15' to 16.5', wet from 16.5' to 20'	SP			See note 4						16-18: 16.6 18-20: 42.0 20-22: 43.2

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature	Firm
	GZA

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis Stats. Completeion of this form is manatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not indended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent

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State of Wisconsin
Department of Natural Resources

Boring Number: PZ-3
Soil Boring Log Information
Form 4400-122 Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Managment ☐
Remediation/Redevelopment ☒ Other ☐ _____

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-5 (20-25)	60/38		20	S-5: 20-21': Poorly-graded SAND (SP), fine to medium-grained; trace Gravel, fine; brown, wet 21-22': Well-graded SAND (SW), fine to coarse-grained; little Gravel, fine to coarse; brown, wet 22-25': Poorly-graded SAND (SP), fine to coarse-grained; some Gravel, fine to coarse; brown, wet	SW SP			See note 5						22-24: 11.8 24-26: 98.6
S-6 (25-30)	60/60		25	S-6: 25-30': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to coarse; brown, wet	SW			See note 6						26-28: 73.1 28-30: 34.7
S-7 (30-35)	60/60		30	S-7: 30-32.5': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to medium; brown, saturated from 31' to 32', wet 32.5-35': Poorly-graded SAND (SP), fine to medium-grained; trace Gravel, fine to medium; brown, wet	SP			See note 7						30-32: 27.6 32-34: 8.4 34-35: 7.4
			35	End of Boring at 35 feet bgs. Boring backfilled with native soils and 3/8 bentonite chips.										

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW-16
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 268141850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/10/2019 (m m d d y y y y)
Type of Well: Well Code ____/____	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 16 T. 07 ☑N ☐S R. 17 ☐E ☐W	Well Installed By: Name (first, last) and Firm: Sage Kapugi, On-Site Environmental
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

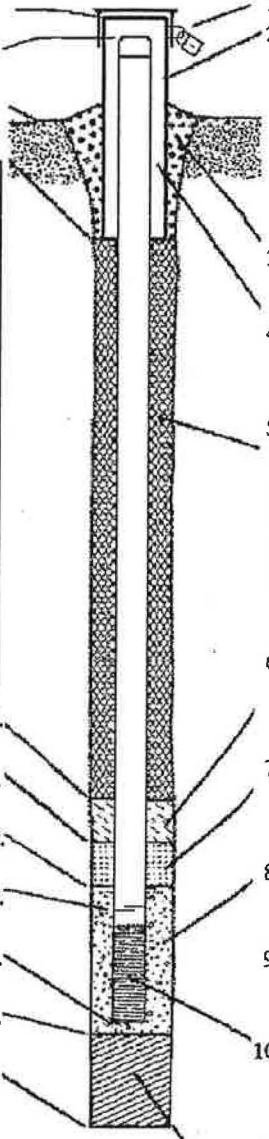
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ ____

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or ____0 ft.
F. Fine sand, top _____ ft. MSL or ____8 ft.
G. Filter pack, top _____ ft. MSL or ____9 ft.
H. Screen joint, top _____ ft. MSL or ____10 ft.
I. Well bottom _____ ft. MSL or ____20 ft.
J. Filter pack, bottom _____ ft. MSL or ____10 ft.
K. Borehole, bottom _____ ft. MSL or ____20 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.375 in.
N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ____
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 3.85 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ____
10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 / Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW-17
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID: 268148 50	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/10/2019 (m m d d y y y y)
Type of Well: Well Code ____/____	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 16, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: Gage Kapugi, On-Site Environmental
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: _____

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):

_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.

F. Fine sand, top _____ ft. MSL or 8 ft.

G. Filter pack, top _____ ft. MSL or 9 ft.

H. Screen joint, top _____ ft. MSL or 12.5 ft.

I. Well bottom _____ ft. MSL or 22.5 ft.

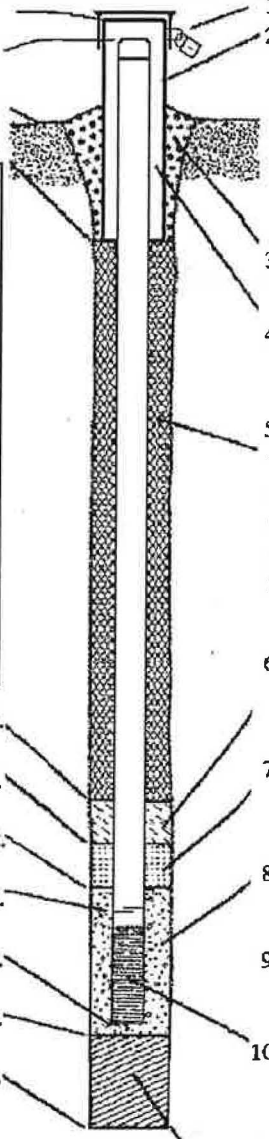
J. Filter pack, bottom _____ ft. MSL or 27.5 ft.

K. Borehole, bottom _____ ft. MSL or 10 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ ____

4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ ____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 3.85 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ ____

10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____
b. Manufacturer MonoFlex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14 Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

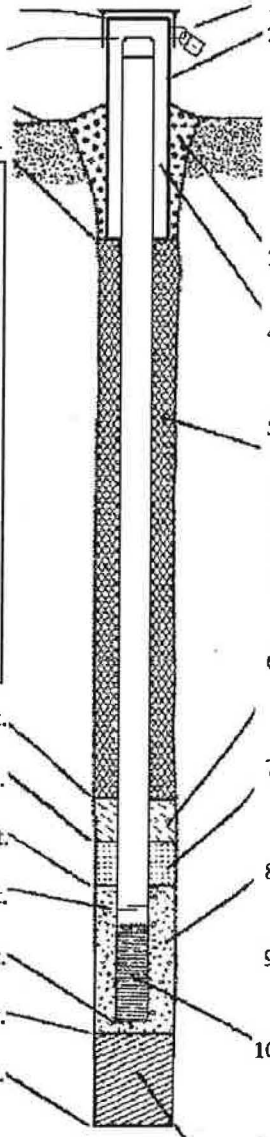
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: PZ-3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 268141850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/11/2019 (m m d d y y y y)
Type of Well: Well Code ____/____	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 16, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: Gage Kapugi, On-Site Environmental
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: _____



A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ ____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):

_____

E. Bentonite seal, top _____ ft. MSL or ____0 ft.

F. Fine sand, top _____ ft. MSL or ____8 ft.

G. Filter pack, top _____ ft. MSL or ____9 ft.

H. Screen joint, top _____ ft. MSL or ____35 ft.

I. Well bottom _____ ft. MSL or ____40 ft.

J. Filter pack, bottom _____ ft. MSL or ____40 ft.

K. Borehole, bottom _____ ft. MSL or ____40 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04; Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ ____

4. Material between well casing and protective pipe: Bentonite ☒ 30; Other ☐ ____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added _____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ ____

10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 5 ft.

11. Backfill material (below filter pack): None ☐ 14; Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: Injection well #1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 268414856	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 07/11/2019 (m m d d y y y y)
Type of Well: Well Code 61 /	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source ____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft. MSL or ____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ ____

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ____ ft. MSL or 0 ft.

F. Fine sand, top ____ ft. MSL or 8 ft.

G. Filter pack, top ____ ft. MSL or 9 ft.

H. Screen joint, top ____ ft. MSL or 10 ft.

I. Well bottom ____ ft. MSL or 20 ft.

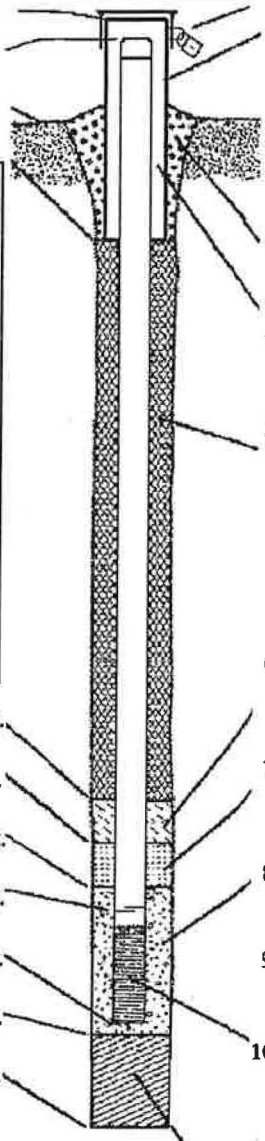
J. Filter pack, bottom ____ ft. MSL or 20 ft.

K. Borehole, bottom ____ ft. MSL or 20 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ____

3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ____

4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ ____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. ____ Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. ____
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ____

10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14 / Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature ____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well ☐ N. ☐ S. _____ ft. ☐ E. ☐ W. _____ ft.	Well Name: Injection well #2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID: 268414850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 61/ii	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑ E ☐ W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source _____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: _____

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

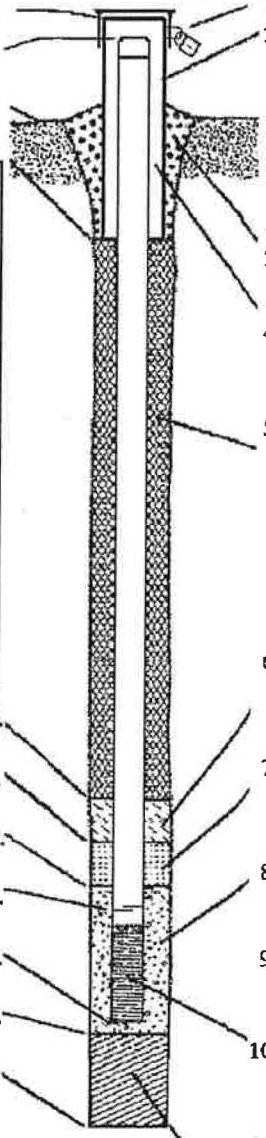
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.
F. Fine sand, top _____ ft. MSL or 8 ft.
G. Filter pack, top _____ ft. MSL or 9 ft.
H. Screen joint, top _____ ft. MSL or 10 ft.
I. Well bottom _____ ft. MSL or 20 ft.
J. Filter pack, bottom _____ ft. MSL or 20 ft.
K. Borehole, bottom _____ ft. MSL or 10 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.375 in.
N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ _____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____
10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ _____
b. Manufacturer MonoFlex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well ☐ N. ☐ S. _____ ft. ☐ E. ☐ W. _____ ft.	Well Name: Injection well #3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 268414850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well — Well Code: 61 / 11	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑ E ☐ W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ _____

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):

_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.

F. Fine sand, top _____ ft. MSL or 8 ft.

G. Filter pack, top _____ ft. MSL or 8 ft.

H. Screen joint, top _____ ft. MSL or 10 ft.

I. Well bottom _____ ft. MSL or 20 ft.

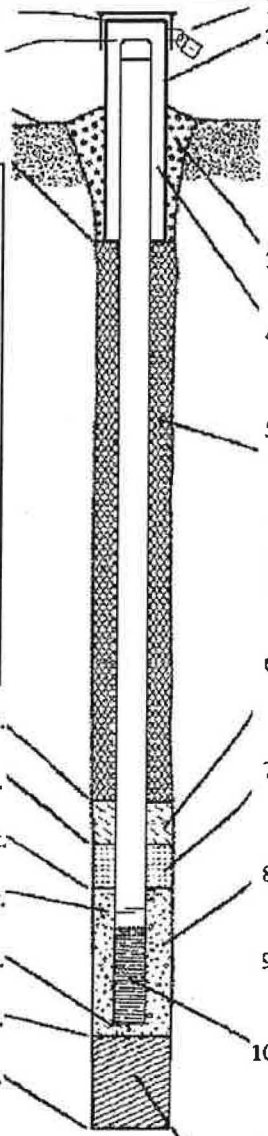
J. Filter pack, bottom _____ ft. MSL or 10 ft.

K. Borehole, bottom _____ ft. MSL or 20 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 / Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ _____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ _____
10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ _____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 / Other ☐ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: Injection well #4
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID: 268414850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 61 / 11	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source _____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: _____

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ ____
_____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or ___6___ ft.

F. Fine sand, top _____ ft. MSL or ___8___ ft.

G. Filter pack, top _____ ft. MSL or ___9___ ft.

H. Screen joint, top _____ ft. MSL or ___10___ ft.

I. Well bottom _____ ft. MSL or ___20___ ft.

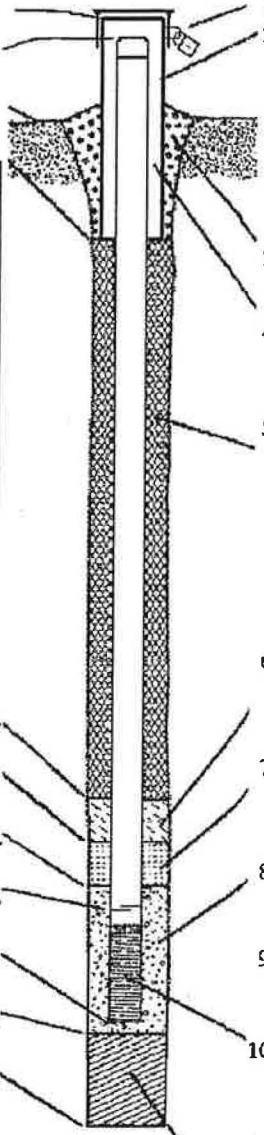
J. Filter pack, bottom _____ ft. MSL or ___20___ ft.

K. Borehole, bottom _____ ft. MSL or ___20___ ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04
Other ☐ ____
_____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30
Concrete ☐ 01
Other ☐ ____
_____

4. Material between well casing and protective pipe:
Bentonite ☒ 30
Other ☐ ____
_____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. _____ ____
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint ____
b. Volume added _____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐ ____
_____

10. Screen material: Schedule 40 PVC ____
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
Other ☐ ____
_____
b. Manufacturer MonoFlex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14
Other ☐ ____
_____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: Injection well #5
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.	DNR Well ID No.
Facility ID: 268141850	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 61 / ii	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source ____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ ____
_____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.

F. Fine sand, top _____ ft. MSL or 8 ft.

G. Filter pack, top _____ ft. MSL or 9 ft.

H. Screen joint, top _____ ft. MSL or 10 ft.

I. Well bottom _____ ft. MSL or 20 ft.

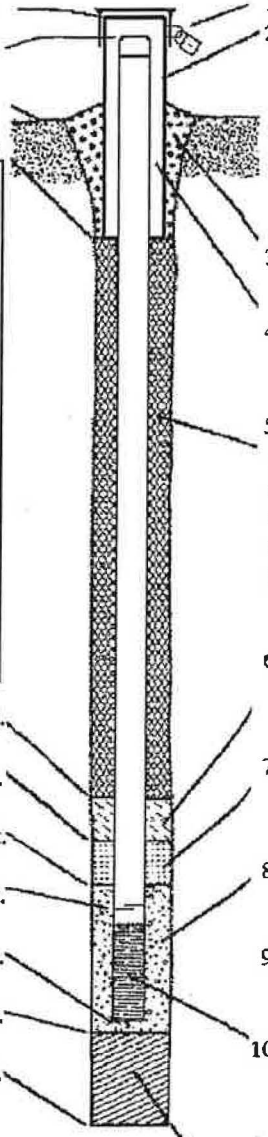
J. Filter pack, bottom _____ ft. MSL or 20 ft.

K. Borehole, bottom _____ ft. MSL or 20 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.375 in.

N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04
_____ Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30
Concrete ☐ 01
_____ Other ☐ ____
4. Material between well casing and protective pipe:
Bentonite ☒ 30
_____ Other ☐ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____ ____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint ____
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐ ____
10. Screen material: Schedule 40 PVC ____
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14
_____ Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: Injection well #6
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. _____ DNR Well ID No. ____
Facility ID: 268141850	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 61 / ii	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15 T. 07 N. R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source ____ ft. Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ____

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

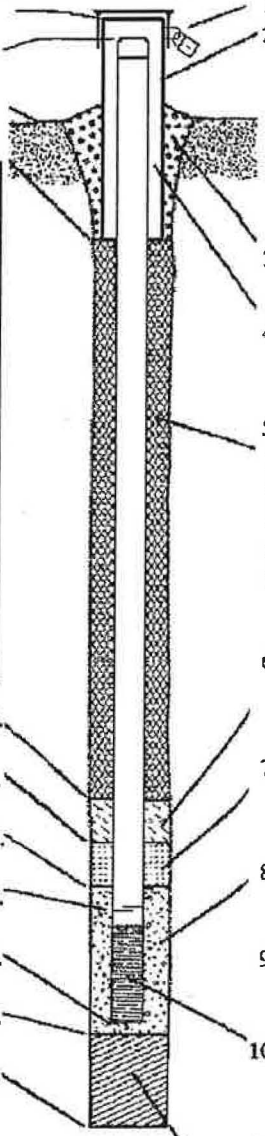
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.
F. Fine sand, top _____ ft. MSL or 8 ft.
G. Filter pack, top _____ ft. MSL or 9 ft.
H. Screen joint, top _____ ft. MSL or 10 ft.
I. Well bottom _____ ft. MSL or 10 ft.
J. Filter pack, bottom _____ ft. MSL or 10 ft.
K. Borehole, bottom _____ ft. MSL or 10 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.375 in.
N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 Other ☐ ____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ ____
4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ ____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ ____
10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☐ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: Injection Well #7
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID: 268141850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 61/ii	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15 T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source _____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number: _____

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

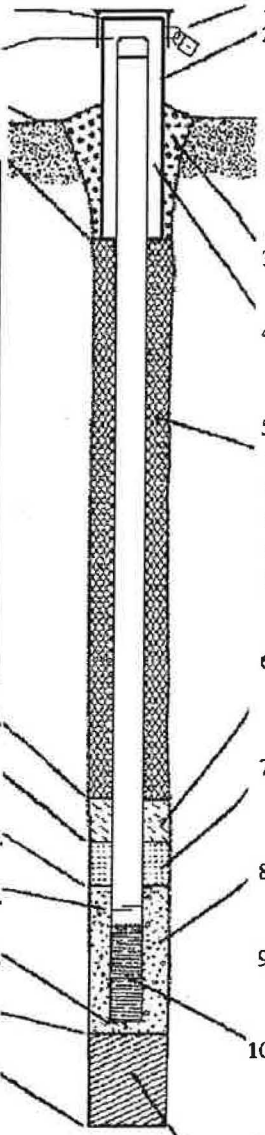
14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☒ 41 Other ☐ ____ _____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or ___0 ft.
F. Fine sand, top _____ ft. MSL or ___8 ft.
G. Filter pack, top _____ ft. MSL or ___9 ft.
H. Screen joint, top _____ ft. MSL or ___10 ft.
I. Well bottom _____ ft. MSL or ___20 ft.
J. Filter pack, bottom _____ ft. MSL or ___20 ft.
K. Borehole, bottom _____ ft. MSL or ___20 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 7.375 in.
N. I.D. well casing 2.05 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 Other ☐ ____ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ ____ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ ____ _____
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐ ____ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. _____ ____ _____
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint ____ _____
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ ____ _____
10. Screen material: Schedule 40 PVC ____ _____
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____ _____
b. Manufacturer Monoflex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☐ ____ _____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

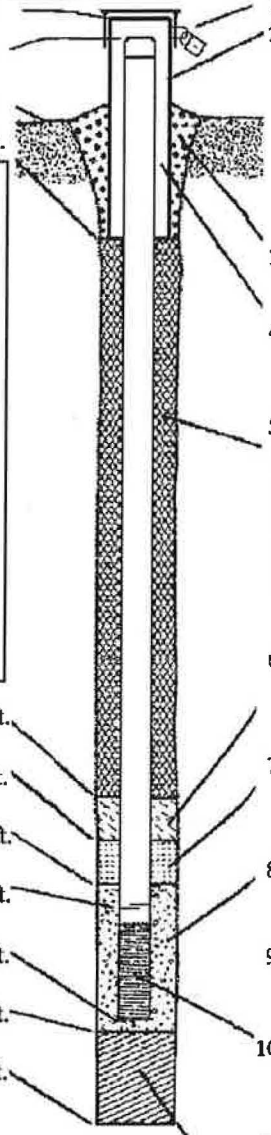
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Leather-Rich	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: SVE well
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: 268414850	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code ____/____	Section Location of Waste/Source: NE 1/4 of NW 1/4 of Sec. 15, T. 07 N, R. 17 ☑E ☐W	Well Installed By: Name (first, last) and Firm: On-Site Environmental Services, Inc.
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: _____



A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐
_____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or ___0 ft.

F. Fine sand, top _____ ft. MSL or ___8 ft.

G. Filter pack, top _____ ft. MSL or ___9 ft.

H. Screen joint, top _____ ft. MSL or ___10 ft.

I. Well bottom _____ ft. MSL or ___14 ft.

J. Filter pack, bottom _____ ft. MSL or ___14 ft.

K. Borehole, bottom _____ ft. MSL or ___14 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 4.5 in.

N. I.D. well casing 3.998 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04
Other ☐
_____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30
Concrete ☐ 01
Other ☐
_____

4. Material between well casing and protective pipe:
Bentonite ☒ 30
Other ☐
_____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. _____
b. Volume added _____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added _____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐
_____

10. Screen material: Schedule 40 PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
Other ☐
_____
b. Manufacturer MonoFlex
c. Slot size: 0.01 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None ☐ 14
Other ☐
_____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm GZA GeoEnvironmental, Inc

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

Facility/Project Name	County Name	Well Name
Leather-Rich	Waukesha	MW-16
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	68	_____	___

1. Can this well be purged dry? ☐ Yes ☑ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☑ 50
Other _____	☐ ___

3. Time spent developing well 50 min.

4. Depth of well (from top of well casisng) 19.8 ft.

5. Inside diameter of well 2.05 in.

6. Volume of water in filter pack and well casing 0.8 gal.

7. Volume of water removed from well 9.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added N/A

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☑ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 15.26 ft.	15.25 ft.
Date	b. 07/11/2019 (m m d d y y y y)	07/11/2019
Time	c. 11:20 ☒ a.m. ☐ p.m.	12:10 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☑ 15 (Describe) Dark gray	Clear ☑ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Maddy Last Name: Salo
Firm: GZA GeoEnvironmental

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Cheryl Last Name: Chew
Facility/Firm: Leather Rich, Inc.
Street: 1250 Corporate Center Dr.
City/State/Zip: Oconomowoc, WI 53066

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Maddy Salo
Firm: GZA GeoEnvironmental

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

Facility/Project Name	County Name	Well Name
Leather-Rich	Waukesha	MW-17
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	68	_____	___

1. Can this well be purged dry? ☐ Yes ☑ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☑ 50
Other _____	☐

3. Time spent developing well 81 min.

4. Depth of well (from top of well casisng) 122 ft.

5. Inside diameter of well 2.05 in.

6. Volume of water in filter pack and well casing 1.1 gal.

7. Volume of water removed from well 9.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added N/A

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☑ No

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	16.01 ft.	16.03 ft.
Date b. (mm dd yyyy)	07/11/2019	07/11/2019
Time c.	12:35 ☐ a.m. ☒ p.m.	2:25 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	1.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Dark gray	

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Maddy Last Name: Salo
Firm: GZA GeoEnvironmental

17. Additional comments on development:
Tubbing became plugged with gravel at 1:21 PM. The last inch of tubing was cut off and development resumed at 1:50 PM.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Cheryl Last Name: Chew
Facility/Firm: Leather Rich, Inc.
Street: 1250 Corporate Center Dr.
City/State/Zip: Oconomowoc, WI 53066

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Maddy Salo
Firm: GZA GeoEnvironmental

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐ _____

Facility/Project Name	County Name	Well Name
Leather-Rich	Waukesha	PZ-3

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	68	_____	___

1. Can this well be purged dry? ☐ Yes ☑ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☑ 50
Other _____	☐ __

3. Time spent developing well 84 min.

4. Depth of well (from top of well casisng) 36.8 ft.

5. Inside diameter of well 1.05 in.

6. Volume of water in filter pack and well casing 3.5 gal.

7. Volume of water removed from well 150.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added N/A

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☑ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 16.21 ft.	16.19 ft.
Date	b. 07/11/2019 (m m d d y y y y)	07/11/2019 (m m d d y y y y)
Time	c. 2:40 ☐ a.m. ☒ p.m.	4:04 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	1.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Dark gray	
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Maddy Last Name: Salo
Firm: GZA GeoEnvironmental

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Cheryl Last Name: Chew
Facility/Firm: Leather Rich, Inc.
Street: 1250 Corporate Center Dr.
City/State/Zip: Oconomowoc, WI 53066

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Maddy Salo
Firm: GZA GeoEnvironmental

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

July 24, 2019

Heidi Woelfel
GZA
20900 Swenson Drive
Suite 150
Waukesha, WI 53186

RE: Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Dear Heidi Woelfel:
Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40191289001	**MW-16**	Water	07/15/19 08:15	07/16/19 11:00
40191289002	**MW-17**	Water	07/15/19 09:15	07/16/19 11:00
40191289003	**PZ-3**	Water	07/15/19 10:00	07/16/19 11:00
40191289004	**MW-13**	Water	07/15/19 10:55	07/16/19 11:00
40191289005	**MW-12**	Water	07/15/19 11:45	07/16/19 11:00
40191289006	**MW-2**	Water	07/15/19 12:45	07/16/19 11:00
40191289007	**MW-1**	Water	07/15/19 13:40	07/16/19 11:00
40191289008	**MW-6**	Water	07/15/19 15:15	07/16/19 11:00
40191289009	**TRIP**	Water	07/15/19 10:05	07/16/19 11:00

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40191289001	**MW-16**	EPA 8260	SMT	64	PASI-G
40191289002	**MW-17**	EPA 8260	SMT	64	PASI-G
40191289003	**PZ-3**	EPA 8260	SMT	64	PASI-G
40191289004	**MW-13**	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289005	**MW-12**	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289006	**MW-2**	EPA 8260	SMT	64	PASI-G
40191289007	**MW-1**	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289008	**MW-6**	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289009	**TRIP**	EPA 8260	SMT	64	PASI-G

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40191289001	**MW-16**					
EPA 8260	Tetrachloroethene	6.6	ug/L	1.1	07/17/19 12:33	
EPA 8260	Trichloroethene	0.62J	ug/L	1.0	07/17/19 12:33	
EPA 8260	cis-1,2-Dichloroethene	1.4	ug/L	1.0	07/17/19 12:33	
40191289002	**MW-17**					
EPA 8260	Tetrachloroethene	187	ug/L	1.1	07/17/19 12:52	
EPA 8260	Trichloroethene	17.7	ug/L	1.0	07/17/19 12:52	
EPA 8260	cis-1,2-Dichloroethene	38.2	ug/L	1.0	07/17/19 12:52	
40191289003	**PZ-3**					
EPA 8260	Tetrachloroethene	106	ug/L	1.1	07/17/19 13:12	
EPA 8260	Trichloroethene	2.4	ug/L	1.0	07/17/19 13:12	
EPA 8260	cis-1,2-Dichloroethene	4.2	ug/L	1.0	07/17/19 13:12	
40191289004	**MW-13**					
EPA 6010	Manganese, Dissolved	2.0J	ug/L	5.0	07/24/19 08:12	
EPA 8260	Tetrachloroethene	98.8	ug/L	1.1	07/17/19 15:48	
EPA 8260	Trichloroethene	8.4	ug/L	1.0	07/17/19 15:48	
EPA 8260	cis-1,2-Dichloroethene	17.9	ug/L	1.0	07/17/19 15:48	
EPA 300.0	Nitrate as N	8.2	mg/L	1.1	07/17/19 11:45	H5,M0
EPA 300.0	Sulfate	24.2	mg/L	3.0	07/16/19 20:37	
SM 5310C	Total Organic Carbon	0.78J	mg/L	0.84	07/19/19 13:53	
40191289005	**MW-12**					
EPA 6010	Iron, Dissolved	59.4J	ug/L	118	07/24/19 08:19	
EPA 6010	Manganese, Dissolved	7.1	ug/L	5.0	07/24/19 08:19	
EPA 8260	Tetrachloroethene	49.5	ug/L	1.1	07/18/19 10:43	
EPA 8260	Trichloroethene	5.1	ug/L	1.0	07/18/19 10:43	
EPA 8260	cis-1,2-Dichloroethene	7.3	ug/L	1.0	07/18/19 10:43	
EPA 300.0	Nitrate as N	8.9	mg/L	1.1	07/17/19 12:24	H5
EPA 300.0	Sulfate	23.6	mg/L	3.0	07/16/19 21:17	
SM 5310C	Total Organic Carbon	0.56J	mg/L	0.84	07/19/19 14:14	
40191289006	**MW-2**					
EPA 8260	Tetrachloroethene	28.0	ug/L	1.1	07/17/19 16:07	
40191289007	**MW-1**					
EPA 8260	Tetrachloroethene	45.3	ug/L	1.1	07/17/19 16:26	
EPA 8260	Trichloroethene	6.9	ug/L	1.0	07/17/19 16:26	
EPA 8260	cis-1,2-Dichloroethene	16.1	ug/L	1.0	07/17/19 16:26	
EPA 300.0	Nitrate as N	8.0	mg/L	1.1	07/17/19 12:37	
EPA 300.0	Sulfate	22.8	mg/L	3.0	07/16/19 21:30	
SM 5310C	Total Organic Carbon	0.60J	mg/L	0.84	07/19/19 14:56	
40191289008	**MW-6**					
EPA 6010	Iron, Dissolved	206	ug/L	118	07/24/19 08:24	
EPA 6010	Manganese, Dissolved	20.6	ug/L	5.0	07/24/19 08:24	
EPA 8260	Tetrachloroethene	636	ug/L	5.4	07/18/19 11:02	
EPA 8260	Trichloroethene	76.8	ug/L	5.0	07/18/19 11:02	
EPA 8260	cis-1,2-Dichloroethene	242	ug/L	5.0	07/18/19 11:02	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40191289008	**MW-6**					
EPA 8260	trans-1,2-Dichloroethene	5.7J	ug/L	18.2	07/18/19 11:02	
EPA 300.0	Nitrate as N	6.3	mg/L	1.1	07/17/19 12:50	
EPA 300.0	Sulfate	20.4	mg/L	3.0	07/16/19 21:43	
SM 5310C	Total Organic Carbon	0.77J	mg/L	0.84	07/19/19 15:16	

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-16 **Lab ID: 40191289001** Collected: 07/15/19 08:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:33	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:33	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:33	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 12:33	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:33	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:33	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 12:33	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 12:33	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 12:33	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 12:33	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 12:33	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 12:33	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:33	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:33	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:33	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:33	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 12:33	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 12:33	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:33	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:33	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 12:33	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 12:33	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 12:33	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 12:33	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:33	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 12:33	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 12:33	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 12:33	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 12:33	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:33	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:33	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:33	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:33	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 12:33	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 12:33	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:33	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 12:33	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 12:33	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 12:33	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:33	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 12:33	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 12:33	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 12:33	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:33	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 12:33	100-42-5	
Tetrachloroethene	**6.6**	ug/L	1.1	0.33	1		07/17/19 12:33	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-16 **Lab ID: 40191289001** Collected: 07/15/19 08:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 12:33	108-88-3	
Trichloroethene	**0.62J**	ug/L	1.0	0.26	1		07/17/19 12:33	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 12:33	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:33	75-01-4	
cis-1,2-Dichloroethene	**1.4**	ug/L	1.0	0.27	1		07/17/19 12:33	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 12:33	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 12:33	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:33	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 12:33	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 12:33	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 12:33	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 12:33	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 12:33	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 12:33	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 12:33	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		07/17/19 12:33	460-00-4	
Dibromofluoromethane (S)	118	%	70-130		1		07/17/19 12:33	1868-53-7	
Toluene-d8 (S)	105	%	70-130		1		07/17/19 12:33	2037-26-5	

Sample: MW-17 **Lab ID: 40191289002** Collected: 07/15/19 09:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:52	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:52	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:52	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 12:52	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:52	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:52	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 12:52	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 12:52	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 12:52	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 12:52	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 12:52	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 12:52	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:52	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:52	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:52	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:52	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 12:52	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 12:52	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:52	142-28-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-17 **Lab ID: 40191289002** Collected: 07/15/19 09:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:52	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 12:52	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 12:52	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 12:52	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 12:52	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:52	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 12:52	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 12:52	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 12:52	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 12:52	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:52	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:52	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:52	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:52	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 12:52	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 12:52	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:52	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 12:52	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 12:52	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 12:52	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:52	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 12:52	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 12:52	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 12:52	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:52	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 12:52	100-42-5	
Tetrachloroethene	**187**	ug/L	1.1	0.33	1		07/17/19 12:52	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 12:52	108-88-3	
Trichloroethene	**17.7**	ug/L	1.0	0.26	1		07/17/19 12:52	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 12:52	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:52	75-01-4	
cis-1,2-Dichloroethene	**38.2**	ug/L	1.0	0.27	1		07/17/19 12:52	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 12:52	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 12:52	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:52	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 12:52	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 12:52	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 12:52	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 12:52	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 12:52	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 12:52	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 12:52	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		07/17/19 12:52	460-00-4	
Dibromofluoromethane (S)	121	%	70-130		1		07/17/19 12:52	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		07/17/19 12:52	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: PZ-3 **Lab ID: 40191289003** Collected: 07/15/19 10:00 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 13:12	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 13:12	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 13:12	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 13:12	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 13:12	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 13:12	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 13:12	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 13:12	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 13:12	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 13:12	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 13:12	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 13:12	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 13:12	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 13:12	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 13:12	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 13:12	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 13:12	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 13:12	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 13:12	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 13:12	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 13:12	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 13:12	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 13:12	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 13:12	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 13:12	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 13:12	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 13:12	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 13:12	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 13:12	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 13:12	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 13:12	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 13:12	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 13:12	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 13:12	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 13:12	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 13:12	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 13:12	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 13:12	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 13:12	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 13:12	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 13:12	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 13:12	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 13:12	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 13:12	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 13:12	100-42-5	
Tetrachloroethene	**106**	ug/L	1.1	0.33	1		07/17/19 13:12	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: PZ-3 **Lab ID: 40191289003** Collected: 07/15/19 10:00 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 13:12	108-88-3	
Trichloroethene	**2.4**	ug/L	1.0	0.26	1		07/17/19 13:12	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 13:12	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 13:12	75-01-4	
cis-1,2-Dichloroethene	**4.2**	ug/L	1.0	0.27	1		07/17/19 13:12	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 13:12	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 13:12	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 13:12	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 13:12	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 13:12	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 13:12	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 13:12	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 13:12	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 13:12	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 13:12	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		07/17/19 13:12	460-00-4	
Dibromofluoromethane (S)	120	%	70-130		1		07/17/19 13:12	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		07/17/19 13:12	2037-26-5	

Sample: MW-13 **Lab ID: 40191289004** Collected: 07/15/19 10:55 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**<35.4**	ug/L	118	35.4	1		07/24/19 08:12	7439-89-6	
Manganese, Dissolved	**2.0J**	ug/L	5.0	1.1	1		07/24/19 08:12	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 15:48	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 15:48	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 15:48	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 15:48	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 15:48	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 15:48	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 15:48	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 15:48	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 15:48	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 15:48	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 15:48	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 15:48	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 15:48	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 15:48	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 15:48	107-06-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-13 **Lab ID: 40191289004** Collected: 07/15/19 10:55 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 15:48	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 15:48	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 15:48	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 15:48	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 15:48	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 15:48	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 15:48	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 15:48	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 15:48	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 15:48	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 15:48	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 15:48	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 15:48	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 15:48	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 15:48	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 15:48	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 15:48	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 15:48	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 15:48	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 15:48	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 15:48	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 15:48	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 15:48	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 15:48	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 15:48	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 15:48	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 15:48	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 15:48	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 15:48	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 15:48	100-42-5	
Tetrachloroethene	**98.8**	ug/L	1.1	0.33	1		07/17/19 15:48	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 15:48	108-88-3	
Trichloroethene	**8.4**	ug/L	1.0	0.26	1		07/17/19 15:48	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 15:48	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 15:48	75-01-4	
cis-1,2-Dichloroethene	**17.9**	ug/L	1.0	0.27	1		07/17/19 15:48	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 15:48	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 15:48	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 15:48	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 15:48	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 15:48	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 15:48	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 15:48	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 15:48	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 15:48	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 15:48	10061-02-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-13 **Lab ID: 40191289004** Collected: 07/15/19 10:55 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		07/17/19 15:48	460-00-4	
Dibromofluoromethane (S)	114	%	70-130		1		07/17/19 15:48	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		07/17/19 15:48	2037-26-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.2**	mg/L	1.1	0.38	5		07/17/19 11:45	14797-55-8	H5,M0
Sulfate	**24.2**	mg/L	3.0	1.0	1		07/16/19 20:37	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.78J**	mg/L	0.84	0.25	1		07/19/19 13:53	7440-44-0	

Sample: MW-12 **Lab ID: 40191289005** Collected: 07/15/19 11:45 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**59.4J**	ug/L	118	35.4	1		07/24/19 08:19	7439-89-6	
Manganese, Dissolved	**7.1**	ug/L	5.0	1.1	1		07/24/19 08:19	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/18/19 10:43	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/18/19 10:43	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/18/19 10:43	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/18/19 10:43	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/18/19 10:43	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/18/19 10:43	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/18/19 10:43	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/18/19 10:43	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/18/19 10:43	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/18/19 10:43	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/18/19 10:43	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/18/19 10:43	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/18/19 10:43	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/18/19 10:43	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/18/19 10:43	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/18/19 10:43	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/18/19 10:43	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/18/19 10:43	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/18/19 10:43	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/18/19 10:43	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/18/19 10:43	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/18/19 10:43	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/18/19 10:43	106-43-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-12 **Lab ID: 40191289005** Collected: 07/15/19 11:45 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/18/19 10:43	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/18/19 10:43	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/18/19 10:43	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/18/19 10:43	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/18/19 10:43	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/18/19 10:43	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/18/19 10:43	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/18/19 10:43	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/18/19 10:43	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/18/19 10:43	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/18/19 10:43	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/18/19 10:43	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/18/19 10:43	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/18/19 10:43	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/18/19 10:43	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/18/19 10:43	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/18/19 10:43	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/18/19 10:43	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/18/19 10:43	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/18/19 10:43	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/18/19 10:43	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/18/19 10:43	100-42-5	
Tetrachloroethene	**49.5**	ug/L	1.1	0.33	1		07/18/19 10:43	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/18/19 10:43	108-88-3	
Trichloroethene	**5.1**	ug/L	1.0	0.26	1		07/18/19 10:43	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/18/19 10:43	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/18/19 10:43	75-01-4	
cis-1,2-Dichloroethene	**7.3**	ug/L	1.0	0.27	1		07/18/19 10:43	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/18/19 10:43	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/18/19 10:43	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/18/19 10:43	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/18/19 10:43	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/18/19 10:43	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/18/19 10:43	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/18/19 10:43	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/18/19 10:43	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/18/19 10:43	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/18/19 10:43	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		07/18/19 10:43	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		07/18/19 10:43	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		07/18/19 10:43	2037-26-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.9**	mg/L	1.1	0.38	5		07/17/19 12:24	14797-55-8	H5
Sulfate	**23.6**	mg/L	3.0	1.0	1		07/16/19 21:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-12 **Lab ID: 40191289005** Collected: 07/15/19 11:45 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.56J**	mg/L	0.84	0.25	1		07/19/19 14:14	7440-44-0	

Sample: MW-2 **Lab ID: 40191289006** Collected: 07/15/19 12:45 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 16:07	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:07	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:07	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 16:07	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 16:07	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:07	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 16:07	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 16:07	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 16:07	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 16:07	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 16:07	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 16:07	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 16:07	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:07	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:07	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:07	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 16:07	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 16:07	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 16:07	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 16:07	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 16:07	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 16:07	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 16:07	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 16:07	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:07	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 16:07	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 16:07	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 16:07	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 16:07	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 16:07	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:07	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 16:07	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 16:07	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 16:07	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 16:07	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 16:07	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 16:07	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-2 **Lab ID: 40191289006** Collected: 07/15/19 12:45 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 16:07	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 16:07	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 16:07	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 16:07	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 16:07	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 16:07	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 16:07	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 16:07	100-42-5	
Tetrachloroethene	**28.0**	ug/L	1.1	0.33	1		07/17/19 16:07	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 16:07	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 16:07	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 16:07	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 16:07	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		07/17/19 16:07	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 16:07	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 16:07	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:07	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 16:07	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 16:07	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 16:07	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 16:07	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 16:07	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 16:07	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 16:07	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		07/17/19 16:07	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		07/17/19 16:07	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		07/17/19 16:07	2037-26-5	

Sample: MW-1 **Lab ID: 40191289007** Collected: 07/15/19 13:40 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**<35.4**	ug/L	118	35.4	1		07/24/19 08:22	7439-89-6	
Manganese, Dissolved	**<1.1**	ug/L	5.0	1.1	1		07/24/19 08:22	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 16:26	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:26	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:26	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 16:26	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 16:26	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:26	75-35-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-1 **Lab ID: 40191289007** Collected: 07/15/19 13:40 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 16:26	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 16:26	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 16:26	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 16:26	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 16:26	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 16:26	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 16:26	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:26	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:26	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 16:26	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 16:26	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 16:26	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 16:26	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 16:26	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 16:26	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 16:26	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 16:26	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 16:26	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 16:26	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 16:26	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 16:26	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 16:26	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 16:26	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 16:26	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:26	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 16:26	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 16:26	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 16:26	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 16:26	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 16:26	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 16:26	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 16:26	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 16:26	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 16:26	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 16:26	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 16:26	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 16:26	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 16:26	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 16:26	100-42-5	
Tetrachloroethene	**45.3**	ug/L	1.1	0.33	1		07/17/19 16:26	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 16:26	108-88-3	
Trichloroethene	**6.9**	ug/L	1.0	0.26	1		07/17/19 16:26	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 16:26	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 16:26	75-01-4	
cis-1,2-Dichloroethene	**16.1**	ug/L	1.0	0.27	1		07/17/19 16:26	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 16:26	10061-01-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-1 **Lab ID: 40191289007** Collected: 07/15/19 13:40 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 16:26	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 16:26	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 16:26	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 16:26	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 16:26	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 16:26	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 16:26	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 16:26	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 16:26	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		07/17/19 16:26	460-00-4	
Dibromofluoromethane (S)	118	%	70-130		1		07/17/19 16:26	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		07/17/19 16:26	2037-26-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.0**	mg/L	1.1	0.38	5		07/17/19 12:37	14797-55-8	
Sulfate	**22.8**	mg/L	3.0	1.0	1		07/16/19 21:30	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.60J**	mg/L	0.84	0.25	1		07/19/19 14:56	7440-44-0	

Sample: MW-6 **Lab ID: 40191289008** Collected: 07/15/19 15:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Iron, Dissolved	**206**	ug/L	118	35.4	1		07/24/19 08:24	7439-89-6	
Manganese, Dissolved	**20.6**	ug/L	5.0	1.1	1		07/24/19 08:24	7439-96-5	
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<1.3**	ug/L	5.0	1.3	5		07/18/19 11:02	630-20-6	
1,1,1-Trichloroethane	**<1.2**	ug/L	5.0	1.2	5		07/18/19 11:02	71-55-6	
1,1,2,2-Tetrachloroethane	**<1.4**	ug/L	5.0	1.4	5		07/18/19 11:02	79-34-5	
1,1,2-Trichloroethane	**<2.8**	ug/L	25.0	2.8	5		07/18/19 11:02	79-00-5	
1,1-Dichloroethane	**<1.4**	ug/L	5.0	1.4	5		07/18/19 11:02	75-34-3	
1,1-Dichloroethene	**<1.2**	ug/L	5.0	1.2	5		07/18/19 11:02	75-35-4	
1,1-Dichloropropene	**<2.7**	ug/L	9.0	2.7	5		07/18/19 11:02	563-58-6	
1,2,3-Trichlorobenzene	**<3.1**	ug/L	25.0	3.1	5		07/18/19 11:02	87-61-6	
1,2,3-Trichloropropane	**<3.0**	ug/L	25.0	3.0	5		07/18/19 11:02	96-18-4	
1,2,4-Trichlorobenzene	**<4.8**	ug/L	25.0	4.8	5		07/18/19 11:02	120-82-1	
1,2,4-Trimethylbenzene	**<4.2**	ug/L	14.0	4.2	5		07/18/19 11:02	95-63-6	
1,2-Dibromo-3-chloropropane	**<8.8**	ug/L	29.4	8.8	5		07/18/19 11:02	96-12-8	
1,2-Dibromoethane (EDB)	**<4.1**	ug/L	13.8	4.1	5		07/18/19 11:02	106-93-4	
1,2-Dichlorobenzene	**<3.5**	ug/L	11.8	3.5	5		07/18/19 11:02	95-50-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-6 **Lab ID: 40191289008** Collected: 07/15/19 15:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	**<1.4**	ug/L	5.0	1.4	5		07/18/19 11:02	107-06-2	
1,2-Dichloropropane	**<1.4**	ug/L	5.0	1.4	5		07/18/19 11:02	78-87-5	
1,3,5-Trimethylbenzene	**<4.4**	ug/L	14.6	4.4	5		07/18/19 11:02	108-67-8	
1,3-Dichlorobenzene	**<3.1**	ug/L	10.5	3.1	5		07/18/19 11:02	541-73-1	
1,3-Dichloropropane	**<4.1**	ug/L	13.8	4.1	5		07/18/19 11:02	142-28-9	
1,4-Dichlorobenzene	**<4.7**	ug/L	15.7	4.7	5		07/18/19 11:02	106-46-7	
2,2-Dichloropropane	**<11.3**	ug/L	37.8	11.3	5		07/18/19 11:02	594-20-7	
2-Chlorotoluene	**<4.6**	ug/L	25.0	4.6	5		07/18/19 11:02	95-49-8	
4-Chlorotoluene	**<3.8**	ug/L	12.6	3.8	5		07/18/19 11:02	106-43-4	
Benzene	**<1.2**	ug/L	5.0	1.2	5		07/18/19 11:02	71-43-2	
Bromobenzene	**<1.2**	ug/L	5.0	1.2	5		07/18/19 11:02	108-86-1	
Bromochloromethane	**<1.8**	ug/L	25.0	1.8	5		07/18/19 11:02	74-97-5	
Bromodichloromethane	**<1.8**	ug/L	6.1	1.8	5		07/18/19 11:02	75-27-4	
Bromoform	**<19.9**	ug/L	66.2	19.9	5		07/18/19 11:02	75-25-2	
Bromomethane	**<4.9**	ug/L	25.0	4.9	5		07/18/19 11:02	74-83-9	
Carbon tetrachloride	**<0.83**	ug/L	5.0	0.83	5		07/18/19 11:02	56-23-5	
Chlorobenzene	**<3.6**	ug/L	11.8	3.6	5		07/18/19 11:02	108-90-7	
Chloroethane	**<6.7**	ug/L	25.0	6.7	5		07/18/19 11:02	75-00-3	
Chloroform	**<6.4**	ug/L	25.0	6.4	5		07/18/19 11:02	67-66-3	
Chloromethane	**<10.9**	ug/L	36.5	10.9	5		07/18/19 11:02	74-87-3	
Dibromochloromethane	**<13.0**	ug/L	43.4	13.0	5		07/18/19 11:02	124-48-1	
Dibromomethane	**<4.7**	ug/L	15.6	4.7	5		07/18/19 11:02	74-95-3	
Dichlorodifluoromethane	**<2.5**	ug/L	25.0	2.5	5		07/18/19 11:02	75-71-8	
Diisopropyl ether	**<9.4**	ug/L	31.5	9.4	5		07/18/19 11:02	108-20-3	
Ethylbenzene	**<1.1**	ug/L	5.0	1.1	5		07/18/19 11:02	100-41-4	
Hexachloro-1,3-butadiene	**<5.9**	ug/L	25.0	5.9	5		07/18/19 11:02	87-68-3	
Isopropylbenzene (Cumene)	**<2.0**	ug/L	25.0	2.0	5		07/18/19 11:02	98-82-8	
Methyl-tert-butyl ether	**<6.2**	ug/L	20.8	6.2	5		07/18/19 11:02	1634-04-4	
Methylene Chloride	**<2.9**	ug/L	25.0	2.9	5		07/18/19 11:02	75-09-2	
Naphthalene	**<5.9**	ug/L	25.0	5.9	5		07/18/19 11:02	91-20-3	
Styrene	**<2.3**	ug/L	7.8	2.3	5		07/18/19 11:02	100-42-5	
Tetrachloroethene	**636**	ug/L	5.4	1.6	5		07/18/19 11:02	127-18-4	
Toluene	**<0.86**	ug/L	25.0	0.86	5		07/18/19 11:02	108-88-3	
Trichloroethene	**76.8**	ug/L	5.0	1.3	5		07/18/19 11:02	79-01-6	
Trichlorofluoromethane	**<1.1**	ug/L	5.0	1.1	5		07/18/19 11:02	75-69-4	
Vinyl chloride	**<0.87**	ug/L	5.0	0.87	5		07/18/19 11:02	75-01-4	
cis-1,2-Dichloroethene	**242**	ug/L	5.0	1.4	5		07/18/19 11:02	156-59-2	
cis-1,3-Dichloropropene	**<18.1**	ug/L	60.5	18.1	5		07/18/19 11:02	10061-01-5	
m&p-Xylene	**<2.3**	ug/L	10.0	2.3	5		07/18/19 11:02	179601-23-1	
n-Butylbenzene	**<3.5**	ug/L	11.8	3.5	5		07/18/19 11:02	104-51-8	
n-Propylbenzene	**<4.1**	ug/L	25.0	4.1	5		07/18/19 11:02	103-65-1	
o-Xylene	**<1.3**	ug/L	5.0	1.3	5		07/18/19 11:02	95-47-6	
p-Isopropyltoluene	**<4.0**	ug/L	13.3	4.0	5		07/18/19 11:02	99-87-6	
sec-Butylbenzene	**<4.2**	ug/L	25.0	4.2	5		07/18/19 11:02	135-98-8	
tert-Butylbenzene	**<1.5**	ug/L	5.1	1.5	5		07/18/19 11:02	98-06-6	
trans-1,2-Dichloroethene	**5.7J**	ug/L	18.2	5.5	5		07/18/19 11:02	156-60-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: MW-6 **Lab ID: 40191289008** Collected: 07/15/19 15:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	**<21.9**	ug/L	72.8	21.9	5		07/18/19 11:02	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		5		07/18/19 11:02	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		5		07/18/19 11:02	1868-53-7	
Toluene-d8 (S)	101	%	70-130		5		07/18/19 11:02	2037-26-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**6.3**	mg/L	1.1	0.38	5		07/17/19 12:50	14797-55-8	
Sulfate	**20.4**	mg/L	3.0	1.0	1		07/16/19 21:43	14808-79-8	
5310C TOC	Analytical Method: SM 5310C								
Total Organic Carbon	**0.77J**	mg/L	0.84	0.25	1		07/19/19 15:16	7440-44-0	

Sample: TRIP **Lab ID: 40191289009** Collected: 07/15/19 10:05 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:13	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:13	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:13	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		07/17/19 12:13	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:13	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:13	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		07/17/19 12:13	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		07/17/19 12:13	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		07/17/19 12:13	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		07/17/19 12:13	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		07/17/19 12:13	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		07/17/19 12:13	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:13	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:13	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:13	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		07/17/19 12:13	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		07/17/19 12:13	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		07/17/19 12:13	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		07/17/19 12:13	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:13	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		07/17/19 12:13	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		07/17/19 12:13	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		07/17/19 12:13	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		07/17/19 12:13	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		07/17/19 12:13	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		07/17/19 12:13	74-97-5	

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ANALYTICAL RESULTS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Sample: TRIP **Lab ID: 40191289009** Collected: 07/15/19 10:05 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		07/17/19 12:13	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		07/17/19 12:13	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		07/17/19 12:13	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:13	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:13	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:13	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		07/17/19 12:13	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		07/17/19 12:13	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		07/17/19 12:13	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		07/17/19 12:13	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		07/17/19 12:13	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		07/17/19 12:13	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		07/17/19 12:13	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:13	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		07/17/19 12:13	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		07/17/19 12:13	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		07/17/19 12:13	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		07/17/19 12:13	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		07/17/19 12:13	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		07/17/19 12:13	127-18-4	
Toluene	**<0.17**	ug/L	5.0	0.17	1		07/17/19 12:13	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 12:13	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		07/17/19 12:13	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		07/17/19 12:13	75-01-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		07/17/19 12:13	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		07/17/19 12:13	10061-01-5	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		07/17/19 12:13	179601-23-1	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		07/17/19 12:13	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		07/17/19 12:13	103-65-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		07/17/19 12:13	95-47-6	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		07/17/19 12:13	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		07/17/19 12:13	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		07/17/19 12:13	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		07/17/19 12:13	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		07/17/19 12:13	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		07/17/19 12:13	460-00-4	
Dibromofluoromethane (S)	117	%	70-130		1		07/17/19 12:13	1868-53-7	HS
Toluene-d8 (S)	99	%	70-130		1		07/17/19 12:13	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

QC Batch: 328481 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1907307 Matrix: Water
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<35.4	118	07/24/19 08:07	
Manganese, Dissolved	ug/L	<1.1	5.0	07/24/19 08:07	

LABORATORY CONTROL SAMPLE: 1907308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	4820	96	80-120	
Manganese, Dissolved	ug/L	500	481	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907309 1907310

Parameter	Units	40191289004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	<35.4	5000	5000	4800	4780	96	95	75-125	0	20	
Manganese, Dissolved	ug/L	2.0J	500	500	477	476	95	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

QC Batch: 327722 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007, 40191289008, 40191289009

METHOD BLANK: 1902946 Matrix: Water
Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007, 40191289008, 40191289009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	07/17/19 09:57	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	07/17/19 09:57	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	07/17/19 09:57	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	07/17/19 09:57	
1,1-Dichloroethane	ug/L	<0.27	1.0	07/17/19 09:57	
1,1-Dichloroethene	ug/L	<0.24	1.0	07/17/19 09:57	
1,1-Dichloropropene	ug/L	<0.54	1.8	07/17/19 09:57	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	07/17/19 09:57	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	07/17/19 09:57	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	07/17/19 09:57	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	07/17/19 09:57	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	07/17/19 09:57	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	07/17/19 09:57	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	07/17/19 09:57	
1,2-Dichloroethane	ug/L	<0.28	1.0	07/17/19 09:57	
1,2-Dichloropropane	ug/L	<0.28	1.0	07/17/19 09:57	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	07/17/19 09:57	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	07/17/19 09:57	
1,3-Dichloropropane	ug/L	<0.83	2.8	07/17/19 09:57	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	07/17/19 09:57	
2,2-Dichloropropane	ug/L	<2.3	7.6	07/17/19 09:57	
2-Chlorotoluene	ug/L	<0.93	5.0	07/17/19 09:57	
4-Chlorotoluene	ug/L	<0.76	2.5	07/17/19 09:57	
Benzene	ug/L	<0.25	1.0	07/17/19 09:57	
Bromobenzene	ug/L	<0.24	1.0	07/17/19 09:57	
Bromochloromethane	ug/L	<0.36	5.0	07/17/19 09:57	
Bromodichloromethane	ug/L	<0.36	1.2	07/17/19 09:57	
Bromoform	ug/L	<4.0	13.2	07/17/19 09:57	
Bromomethane	ug/L	<0.97	5.0	07/17/19 09:57	
Carbon tetrachloride	ug/L	<0.17	1.0	07/17/19 09:57	
Chlorobenzene	ug/L	<0.71	2.4	07/17/19 09:57	
Chloroethane	ug/L	<1.3	5.0	07/17/19 09:57	
Chloroform	ug/L	<1.3	5.0	07/17/19 09:57	
Chloromethane	ug/L	<2.2	7.3	07/17/19 09:57	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	07/17/19 09:57	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	07/17/19 09:57	
Dibromochloromethane	ug/L	<2.6	8.7	07/17/19 09:57	
Dibromomethane	ug/L	<0.94	3.1	07/17/19 09:57	
Dichlorodifluoromethane	ug/L	<0.50	5.0	07/17/19 09:57	
Diisopropyl ether	ug/L	<1.9	6.3	07/17/19 09:57	

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QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

METHOD BLANK: 1902946 Matrix: Water
Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007, 40191289008, 40191289009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.22	1.0	07/17/19 09:57	
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	07/17/19 09:57	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	07/17/19 09:57	
m&p-Xylene	ug/L	<0.47	2.0	07/17/19 09:57	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	07/17/19 09:57	
Methylene Chloride	ug/L	<0.58	5.0	07/17/19 09:57	
n-Butylbenzene	ug/L	<0.71	2.4	07/17/19 09:57	
n-Propylbenzene	ug/L	<0.81	5.0	07/17/19 09:57	
Naphthalene	ug/L	<1.2	5.0	07/17/19 09:57	
o-Xylene	ug/L	<0.26	1.0	07/17/19 09:57	
p-Isopropyltoluene	ug/L	<0.80	2.7	07/17/19 09:57	
sec-Butylbenzene	ug/L	<0.85	5.0	07/17/19 09:57	
Styrene	ug/L	<0.47	1.6	07/17/19 09:57	
tert-Butylbenzene	ug/L	<0.30	1.0	07/17/19 09:57	
Tetrachloroethene	ug/L	<0.33	1.1	07/17/19 09:57	
Toluene	ug/L	<0.17	5.0	07/17/19 09:57	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	07/17/19 09:57	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	07/17/19 09:57	
Trichloroethene	ug/L	<0.26	1.0	07/17/19 09:57	
Trichlorofluoromethane	ug/L	<0.21	1.0	07/17/19 09:57	
Vinyl chloride	ug/L	<0.17	1.0	07/17/19 09:57	
4-Bromofluorobenzene (S)	%	98	70-130	07/17/19 09:57	
Dibromofluoromethane (S)	%	119	70-130	07/17/19 09:57	
Toluene-d8 (S)	%	106	70-130	07/17/19 09:57	

LABORATORY CONTROL SAMPLE: 1902947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.8	110	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.0	98	70-130	
1,1,2-Trichloroethane	ug/L	50	51.1	102	70-130	
1,1-Dichloroethane	ug/L	50	52.7	105	73-150	
1,1-Dichloroethene	ug/L	50	60.7	121	73-138	
1,2,4-Trichlorobenzene	ug/L	50	46.6	93	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.3	85	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	49.0	98	70-130	
1,2-Dichlorobenzene	ug/L	50	45.8	92	70-130	
1,2-Dichloroethane	ug/L	50	55.8	112	75-140	
1,2-Dichloropropane	ug/L	50	47.2	94	73-135	
1,3-Dichlorobenzene	ug/L	50	46.8	94	70-130	
1,4-Dichlorobenzene	ug/L	50	46.9	94	70-130	
Benzene	ug/L	50	56.7	113	70-130	
Bromodichloromethane	ug/L	50	51.3	103	70-130	

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QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

LABORATORY CONTROL SAMPLE: 1902947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	50	43.3	87	68-129	
Bromomethane	ug/L	50	32.5	65	18-159	
Carbon tetrachloride	ug/L	50	52.9	106	70-130	
Chlorobenzene	ug/L	50	49.3	99	70-130	
Chloroethane	ug/L	50	59.3	119	53-147	
Chloroform	ug/L	50	54.2	108	74-136	
Chloromethane	ug/L	50	41.7	83	29-115	
cis-1,2-Dichloroethene	ug/L	50	54.0	108	70-130	
cis-1,3-Dichloropropene	ug/L	50	46.6	93	70-130	
Dibromochloromethane	ug/L	50	45.4	91	70-130	
Dichlorodifluoromethane	ug/L	50	39.3	79	10-130	
Ethylbenzene	ug/L	50	51.5	103	80-124	
Isopropylbenzene (Cumene)	ug/L	50	53.4	107	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	48.5	97	54-137	
Methylene Chloride	ug/L	50	52.6	105	73-138	
o-Xylene	ug/L	50	52.0	104	70-130	
Styrene	ug/L	50	52.0	104	70-130	
Tetrachloroethene	ug/L	50	55.0	110	70-130	
Toluene	ug/L	50	51.9	104	80-126	
trans-1,2-Dichloroethene	ug/L	50	57.2	114	73-145	
trans-1,3-Dichloropropene	ug/L	50	42.4	85	70-130	
Trichloroethene	ug/L	50	54.8	110	70-130	
Trichlorofluoromethane	ug/L	50	60.8	122	76-147	
Vinyl chloride	ug/L	50	54.8	110	51-120	
4-Bromofluorobenzene (S)	%			105	70-130	
Dibromofluoromethane (S)	%			111	70-130	
Toluene-d8 (S)	%			105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903058 1903059

Parameter	Units	40191289001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	56.9	57.7	114	115	70-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	53.4	50.5	107	101	70-130	6	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	51.8	51.6	104	103	70-137	1	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	52.4	53.5	105	107	73-153	2	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	63.0	63.8	126	128	73-138	1	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	50.3	50.0	101	100	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	45.9	45.4	92	91	58-129	1	20	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	52.0	50.8	104	102	70-130	2	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	49.1	47.8	98	96	70-130	3	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	51.8	52.5	104	105	75-140	1	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	47.7	48.3	95	97	71-138	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903058 1903059

Parameter	Units	40191289001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	<0.63	50	50	48.7	47.5	97	95	70-130	2	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	48.3	48.3	97	97	70-130	0	20	
Benzene	ug/L	<0.25	50	50	58.0	58.7	116	117	70-130	1	20	
Bromodichloromethane	ug/L	<0.36	50	50	50.5	51.1	101	102	70-130	1	20	
Bromoform	ug/L	<4.0	50	50	45.2	42.9	90	86	68-129	5	20	
Bromomethane	ug/L	<0.97	50	50	41.5	44.9	83	90	15-170	8	20	
Carbon tetrachloride	ug/L	<0.17	50	50	54.0	55.9	108	112	70-130	3	20	
Chlorobenzene	ug/L	<0.71	50	50	50.9	51.7	102	103	70-130	1	20	
Chloroethane	ug/L	<1.3	50	50	60.4	59.1	121	118	51-148	2	20	
Chloroform	ug/L	<1.3	50	50	56.6	56.7	113	113	74-136	0	20	
Chloromethane	ug/L	<2.2	50	50	42.7	43.8	85	88	23-115	3	20	
cis-1,2-Dichloroethene	ug/L	1.4	50	50	56.2	56.5	110	110	70-131	1	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	48.4	47.6	97	95	70-130	2	20	
Dibromochloromethane	ug/L	<2.6	50	50	46.2	45.9	92	92	70-130	1	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	41.2	41.3	82	83	10-132	0	20	
Ethylbenzene	ug/L	<0.22	50	50	51.6	53.0	103	106	80-125	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	53.4	55.1	107	110	70-130	3	20	
m&p-Xylene	ug/L	<0.47	100	100	106	105	106	105	70-130	0	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	49.5	49.5	99	99	51-145	0	20	
Methylene Chloride	ug/L	<0.58	50	50	54.3	54.4	109	109	73-140	0	20	
o-Xylene	ug/L	<0.26	50	50	53.5	52.4	107	105	70-130	2	20	
Styrene	ug/L	<0.47	50	50	54.5	52.3	109	105	70-130	4	20	
Tetrachloroethene	ug/L	6.6	50	50	62.2	63.1	111	113	70-130	1	20	
Toluene	ug/L	<0.17	50	50	52.5	52.2	105	104	80-131	1	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	57.9	58.0	116	116	73-148	0	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	43.8	43.7	88	87	70-130	0	20	
Trichloroethene	ug/L	0.62J	50	50	55.3	54.8	109	108	70-130	1	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	62.3	64.3	125	129	74-147	3	20	
Vinyl chloride	ug/L	<0.17	50	50	55.7	56.0	111	112	41-129	1	20	
4-Bromofluorobenzene (S)	%						107	109	70-130			
Dibromofluoromethane (S)	%						114	119	70-130			
Toluene-d8 (S)	%						105	105	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

QC Batch: 327691 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1902596 Matrix: Water
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.075	0.22	07/16/19 19:31	
Sulfate	mg/L	<1.0	3.0	07/16/19 19:31	

LABORATORY CONTROL SAMPLE: 1902597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	98	90-110	
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1902598 1902599

Parameter	Units	40191289004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrate as N	mg/L	8.2	7.5	7.5	15.1	14.8	92	89	90-110	2	15	M0
Sulfate	mg/L	24.2	20	20	43.6	43.7	97	97	90-110	0	15	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

QC Batch: 327870 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1903779 Matrix: Water
Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	07/19/19 07:14	

LABORATORY CONTROL SAMPLE: 1903780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.3	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903781 1903782

Parameter	Units	40191005001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	<2.5	3	3	1.3J	1.3J	39	39	80-120		10	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903783 1903784

Parameter	Units	40191005002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	<0.84	1	1	0.56J	0.57J	38	39	80-120		10	M0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

H5	Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20.0156045 LEATHER-RICH
Pace Project No.: 40191289

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40191289004	**MW-13**	EPA 6010	328481		
40191289005	**MW-12**	EPA 6010	328481		
40191289007	**MW-1**	EPA 6010	328481		
40191289008	**MW-6**	EPA 6010	328481		
40191289001	**MW-16**	EPA 8260	327722		
40191289002	**MW-17**	EPA 8260	327722		
40191289003	**PZ-3**	EPA 8260	327722		
40191289004	**MW-13**	EPA 8260	327722		
40191289005	**MW-12**	EPA 8260	327722		
40191289006	**MW-2**	EPA 8260	327722		
40191289007	**MW-1**	EPA 8260	327722		
40191289008	**MW-6**	EPA 8260	327722		
40191289009	**TRIP**	EPA 8260	327722		
40191289004	**MW-13**	EPA 300.0	327691		
40191289005	**MW-12**	EPA 300.0	327691		
40191289007	**MW-1**	EPA 300.0	327691		
40191289008	**MW-6**	EPA 300.0	327691		
40191289004	**MW-13**	SM 5310C	327870		
40191289005	**MW-12**	SM 5310C	327870		
40191289007	**MW-1**	SM 5310C	327870		
40191289008	**MW-6**	SM 5310C	327870		

40191289

(Please Print Clearly)

Company Name:	GZA GeoEnvironmental
Branch/Location:	Waukesha, WI
Project Contact:	Heidi Woelfel
Phone:	262-754-2594
Project Number:	20.0156045
Project Name:	Leather-Rich
Project State:	WI
Sampled By (Print):	Maddy Salo
Sampled By (Sign):	[signature]
PO #:	
Regulatory Program:	

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	
Mail To Contact:	Heidi Woelfel
Mail To Company:	GZA GeoEnvironmental
Mail To Address:	20900 Swenson Dr STE 150 Waukesha, WI 53186
Invoice To Contact:	Heidi Woelfel
Invoice To Company:	GZA GeoEnvironmental
Invoice To Address:	20900 Swenson Dr STE 150 Waukesha, WI 53186
Invoice To Phone:	262-754-2594

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, Sl = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

Analyses Requested

FILTERED? (YES/NO) Y/N	N	Y	N	N
PRESERVATION (CODE)* Pick Letter	~~X~~ B (7-17-19 ad)	D	A	C
Analyses	VOC	Metals (Iron, Manganese)	Nitrate, Sulfate	Total Organic Carbon

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	VOC	Metals (Iron, Manganese)	Nitrate, Sulfate	Total Organic Carbon	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW-16	7-15-19	8:15	GW	X						
002	MW-17	7-15-19	9:15	GW	X						
003	PZ-3	7-15-19	10:00	GW	X						
004	MW-13	7-15-19	10:55	GW	X	X	X	X			
005	MW-12	7-15-19	11:45	GW	X	X	X	X			
006	MW-2	7-15-19	12:45	GW	X						
007	MW-1	7-15-19	13:50	GW	X	X	X	X			
008	MW-6	7-15-19	15:15	GW	X	X	X	X			
009	Trip	7-15-19	10:05		X						

MJS 7-15-19

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	7-15-19 17:00		
FedEx	7/16/19 11:00	Jose Vargas Pace	7/16/19 11:00

PACE Project No. 40191289

Receipt Temp = ROI °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: G2A Project # 40191289

All containers needing preservation have been checked and noted below: ☒Yes ☐No ☐N/A Initial when completed: JV Date/ Time:

Lab Lot# of pH paper: 10405841 Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001																		3															2.5 / 5 / 10
002																		3															2.5 / 5 / 10
003																		3									1						2.5 / 5 / 10
004			1								1		1					3													X		2.5 / 5 / 10
005			1								1		1					3													X		2.5 / 5 / 10
006																		3									1						2.5 / 5 / 10
007			1								1		1					3													X		2.5 / 5 / 10
008			1								1		1					3									1				X		2.5 / 5 / 10
009																		2									2						2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

7/16/2019 JV

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☒Yes ☐No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical™ 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40191289

40191289

Client Name: GZA GeoEnvironmental

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 8148 6939 5940

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - N/A **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 8.0 /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 7/16/2019
Initials: SU

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. No Page # 7/16/2019 SU
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☒Yes ☐No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☒Yes ☐No ☐N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☒Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 487		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date: 7-16-19

APPENDIX D

ELECTRON DONOR PRODUCT SHEET

LACTOIL®
SOY MICROEMULSION

CONCENTRATED FORMULATION PROVIDES SAVINGS THROUGH INCREASED DISTRIBUTION, EXTENDED LONGEVITY, HIGH EFFICIENCY

LACTOIL® is a thermodynamically stable microemulsion designed to provide the subsurface distribution and remediation performance characteristics of a highly soluble substrate with the longevity of a vegetable oil.

Neat LACTOIL ® | **LACTOIL ® /Water After 4 Weeks**

INCREASED SUBSURFACE DISTRIBUTION:
- Average particle size < 1 micron
- High emulsion stability allows for greater subsurface transport

EXTENDED LONGEVITY:
- 98% fermentable emulsion
- Emulsion particles contain both readily soluble and slowly soluble material

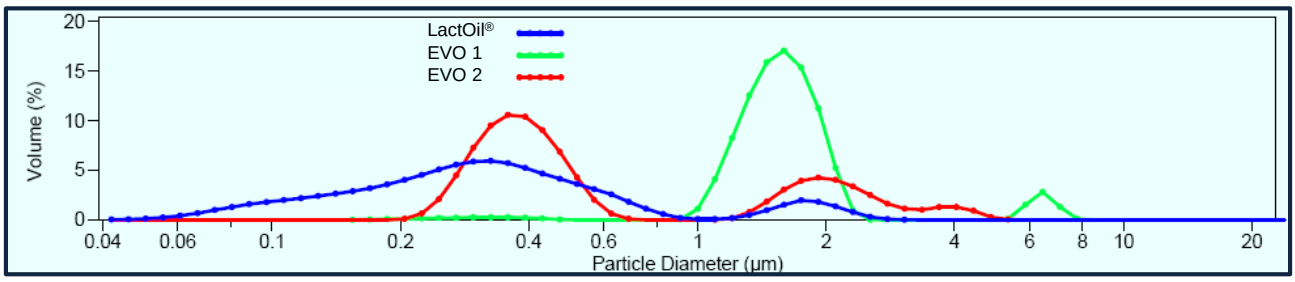
INCREASED DEGRADATION RATES:
- Provides sustained lactate for accelerated metabolism

HIGHER EFFICIENCY:
- Increased contaminant degradation per unit of fermentable product injected as compared to standard EVO

CONTAMINANTS TREATED:
- Chlorinated solvents, nitrates, perchlorate, RDX, metals, trichloropropane, mine impacted water

TREATMENT APPLICATIONS:
- Permanent wells, direct push, excavation backfill, bedrock

Particle Size Analysis



Analysis conducted using 1:10 dilution on a Beckman Coulter Light Scattering Particle Size Analyzer

JRW BIOREMEDIATION LLC
www.jrwbioremediation.com
(913)438-5544
info@jrwbiorem.com